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AGGLUTINATION TESTS FOR THE DIAGNOSIS OF B. ABORTUS INFECTION*

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WHEN an animal becomes infected or is injected with bacteria or bacterial antigens capable of stimulating antibody formation, there results the production of various substances intended to immunize the animal against that particular agent. One class of these antibodies has been termed *agglutinins*, so-called because they have the ability to cause agglutination or clumping of the specific organism against which they are formed. The principle underlying the agglutination test depends upon the formation, in the animal body, of these agglutinins.

Our knowledge of these substances has been put to practical use in the development of tests for diagnosis of various infections. In general, it may be said that agglutination tests are specific for the single variety of organism used in the test fluid.

Two types of agglutination tests are used in the diagnosis of B. abortus infection; the first is the standard or slow method in which the technic employed is applicable to testing for agglutinins against any type of infection by means of the proper specific antigen; the second is the rapid test devised by Huddleson[1] especially for the serum diagnosis of abortion disease. Either may be applied to blood serums of animals or of man and to milk serums, as will be shown later.

THE STANDARD OR SLOW METHOD

Collection of Blood Samples: Blood samples should be collected in sterile vials or test-tubes, using care to avoid contamination. The blood is allowed to clot firmly at room temperature or in the incubator and is then placed in the ice box until the test is to be made. Several hours are required for the separation of *clear* serum required in the test unless centrifugation is resorted to.

Preparation of Antigen: The test-fluid or antigen is prepared from strains of B. abortus, the agglutinability and growth characteristics of which have been checked and found satisfactory. The organisms are grown on agar (liver-infusion or glycerine) for 48 to 72 hours. The growth is washed off with sterile physiological salt solution to which 0.4% phenol or 0.25% formalin has been added, heated at 65°C for one hour to kill the organisms and is then ready for test and titration.

The concentrated suspension of organisms obtained as above is diluted with salt solution to correspond to the No. 1 tube of the MacFarland nephelometer. This represents the proper density and turbidity, in our experience. The test-fluid, so prepared, is then run against known positive, negative and doubtful blood serums to check its suitability for routine use. These checks are run in the same way as the test to be described later.

Apparatus: Apparatus required for the test includes suitable test-tube racks, 100 x 16 mm. test tubes, serum pipettes (0.2 cc. graduated in 1/100ths) and antigen pipettes (10 cc. graduated).

The Test: Four tubes are set up for each serum to be tested, the first tube in each series being numbered to correspond with the sample number. The 0.2 serum pipette is filled and the following amounts of serum added: Tube 1, 0.08 cc.; Tube 2, 0.04 cc.; Tube 3, 0.02 cc.; Tube 4, 0.01 cc. Two cubic centimeters of a previously tested antigen are then added to each tube (giving dilutions of 1-25, 1-50, 1-100, and 1-200 respectively), the racks of tubes are well shaken, and then are placed in the incubator at 37°C for forty-eight hours. Readings of the test are made at the end of this time. Some operators place the racks in the ice box after reading and make an additional reading twenty-four hours later.

Reading the Test Results: The phenomenon of agglutination is indicated by a clumping together and settling out of the organisms in the test fluid so as to form a more or less loose, irregular film over the bottom portion of the tubes, leaving the supernatant fluid clear. This agglutination and attendant clearing of the test fluid takes place in varying degree according to the agglutinin content of the serum tested. Absence of agglutination is indicated by no appreciable clearing of the turbid test fluid, such few organisms as do settle out being found in the central portion of the bottom of the tube in a compact, circular mass. This has no significance. Intermediate between complete agglutination

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and absence of the same, we recognize partial true agglutination reactions which are indicated by partial clearing of the supernatant fluid and the settling out of a variable number of bacterial clumps.

We may distinguish between true agglutination and simple settling-out of organisms by gently shaking the tubes in question. In the case of true agglutination, the clumps of bacteria persist after gentle agitation and are readily discernible; organisms that have merely settled out go again into suspension when agitated and no clumps are visible to the naked eye.

In reading the tests, a system of recording results must be used, which will serve later as a ready means of interpreting the reactions. Several such systems are in use and any may be chosen which suits the operator. The one described is the so-called 4 plus system and is recommended because of the range of readings it permits. Thus:

4+ = Complete agglutination
3+ = About 75% "
2+ = " 50% "
1+ = " 25% "
— = No Agglutination

Properly ruled sheets are used so as to provide space for the sample numbers on the left-hand margin, then vertical columns, according to the number of tubes or dilutions used for each test, and at the right, space for notation of the reaction as it is interpreted after reading the test.

Readings should be made in a good light transmitted through the test tubes or against a somewhat dark background with transmitted light. The degree of agglutination or absence of it is noted for each tube of every sample tested and recorded.

Interpretation of Results: The question as to what degree of agglutination constitutes a positive reaction is a much discussed one and there is some variation in interpretations in different laboratories. Without confusing the discussion by presentation of varied interpretations, a classification of reactions is given below which may be considered as standard as any.

Complete absence of agglutination in all dilutions	Negative
Partial agglutination in 1-25 only, none in 1-50 or higher	Negative
Complete agglutination in 1-25, partial in 1-50	Doubtful
Complete agglutination in 1-25, complete in 1-50	Doubtful
Complete agglutination in 1-25 and 1-50, partial in 1-100	Doubtful or Highly Susp.
Complete agglutination in 1-25, 1-50, 1-100, partial in 1-200	Positive
Complete agglutination in all four tubes	Positive

Many workers do not attempt to make any definite interpretation of reactions, preferring to give only the readings of the test or to indicate the agglutination titre of each sample. By *titre* is meant the highest dilution in which a given sample shows complete or nearly complete agglutination, as for example, 1-100.

THE RAPID METHOD OF HUDDLESON

This test, devised as a result of the reliable rapid method for the serum diagnosis of syphilis in man described by Kahn and later applied to the serum diagnosis of B. abortus infection by Gwatkin[2], represents a distinct advance in agglutination technic and has a number of advantages. For a complete description of the test by Huddleson, the reader is referred to the appended references.

Essentially, the method consists in the use of a very sensitive antigen, several hundred times more concentrated than that employed in the slow test. In the routine application of the test, different amounts of serum (same as in the slow test) are dropped upon a glass plate appropriately ruled into one inch or two cm. squares. A standardized dropper pipette is used to add approximately 0.03 cc. of the concentrated antigen to each amount of serum. Mixing of serum and antigen is then accomplished by means of toothpicks or by gentle tilting of the plate. The plate is warmed slightly over a conveniently arranged electric bulb to hasten the agglutination reaction and readings of the reactions are made in from three to five minutes.

The agglutination phenomenon, in the case of positive or doubtful sera, takes place immediately or within a few minutes. The advantages of the test in this respect are obvious.

In the hands of competent workers and when carried out strictly according to the technic described by Huddleson, the rapid test is quite as accurate and dependable as the slow method. There is some evidence which indicates that the rapid test, in certain instances, will detect animals infected with B. abortus somewhat earlier than the slow test.

The most important item is the preparation of a satisfactory antigen. For those who do not have the experience or facilities to prepare the antigen as described by Huddleson, there is available today a commercially prepared antigen which is subjected to rigid tests to prove its reliability. There are also available from a number of sources complete outfits for the application of the test.

In the work done in our herds, during the past two years, for the elimination of animals infected with the Bang organism, we have employed the Huddleson method as a check test. In so doing, we have employed but one amount of serum (0.04 cc.) and have read the resulting reaction on the 4 plus basis. Even with this curtailed application, the rapid method has shown a correlation of better than 95 per cent. with the standard test and has been of great value as a check.

TESTING MILK SERUMS

It is sometimes desired to test milk serums for the presence of B. abortus agglutinins. Such tests are usually applied to samples from individual cows or from each quarter of the udder of a cow. Such tests can be made very satisfactorily and with exactly the same technic as described for either the slow or rapid methods. The important item is to secure *clear* milk-serum (in reality, whey) from the samples of milk to be tested so that the reactions obtained are not obscured by cloudiness of the serum itself.

Clear milk-serum may be obtained as follows: The samples of milk to be tested must not be sour, as the presence of acid may inhibit or enhance agglutination to the point of false reactions. Samples of milk are centrifuged and all the cream layer removed. Then two or three drops of a rennet solution (made by dissolving a rennet tablet in 10 cc. of distilled water) are added to each sample and mixed by shaking. The samples are placed in the incubator for a few minutes to hasten curd formation and then in a water-bath at a temperature of 45-50°C for a few minutes, thus causing contraction of the curd and separation of whey, which is usually water-clear. Centrifugation may be resorted to if necessary. The whey or milk-serum so obtained is then ready for test.

REFERENCES

1 Huddleson, I. F., and Abell, E.: Rapid macroscopic agglutination for the serum diagnosis of Bang's abortion disease. Jour. Infect. Dis., 42:242-247, March, 1928.

2 Gwatkin: Rapid agglutination method (macroscopic). Report of the Ontario Veterinary College, 1923, p. 42.

IMPRESSIONS OF SURGICAL ENDOTHERMY*

BY GRANTLEY W. TAYLOR, M.D.,† AND HORATIO ROGERS, M.D.†

TWO years ago, at the suggestion of Dr. Robert B. Greenough and Professor Bovie, a series of experiments with the endothermy apparatus then available at the Collis P. Huntington Memorial Hospital was undertaken to determine, if possible, a quantitative relationship between the current used and the resultant type of wound. For various reasons this work was not carried through to a point where reliable scientific statements could be made of the findings. However, it seems desirable to present the impressions gained during the work, with the idea that they may be of some value towards a better understanding of the mode of action of this apparatus.

The machine used in the experiments was the Liebel Flarsheim,‡ providing bipolar currents of two types, coagulating and cutting, as well as Oudin current for monopolar work.

The coagulating apparatus presents an adjustable spark gap, several stages of power, and various shapes and sizes of active electrodes. Thus, assuming a uniform delivery of current from the instrument, the possible variables affecting the result are: (1) spark gap adjustment; (2) stage of power used; (3) size and shape of active electrode; (4) duration of application to the tissue; (5) nature of the tissue and anatomical region.

There is some ground for supposing that the assumption of uniform current delivery is unwarranted.

The spark gap adjustment is a matter of guess work or rough approximation and cannot be duplicated exactly in successive experiments. Undetected variations here may be responsible for inconsistencies in results in a considerable number of cases.

The stage of power used is adjustable by a dial which permits duplication of conditions.

It should be borne in mind that the active electrode may remain the same, and yet the effect on tissues be quite different, depending on the way the instrument is used. Thus if a needle tip is used, applied perpendicularly to the surface, the contact is punctate; applied tangentially or obliquely, the contact is linear; while if the needle is thrust into the tissue, the contact is linear or more probably conical.

The duration of application of the current may be controlled very accurately under experimental conditions. In clinical practice, however, the judgment of the surgeon is the only control of this very important factor.

The nature of the tissue is a very important consideration. It is readily demonstrable that the conductivities of tissues vary markedly. Clinically it is, for instance, obvious that greater current is necessary to divide fat than skin. It is also demonstrable that the direction of dissemination of heat in the tissues is influenced by fascial planes, the direction of the muscle fibers and the propinquity and direction of large blood vessels. Also, tissue which already has been worked over by an instrument will have altered its character by virtue of this and will not respond in the same way as fresh tissue of the same sort. Finally, as clinical experience clearly demonstrates, the presence of blood or tissue fluids in the wound markedly changes the character of the response to a given current. Clinically this fact is significant also in requiring a distinction in technique, depending on whether infiltration with a local anesthetic, or general anesthesia, is employed.

The foregoing variables apply with like force to the electric scalpel, and in addition, this de-

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‡This machine is now obsolete because of the newer Bovie Unit made by the same manufacturer.

vice provides variable degrees of dehydration (controllable by dial), and high and low voltage, likewise controllable.

The degree of dehydration caused by the currents is apparently a function of the degree of damping of the oscillations of the current. A current which is damped confines its generated heat to a very narrow zone of tissue immediately beneath the point of contact of the electrode. An undamped current, on the other hand, gives a more diffuse effect, with tissue changes extending laterally from the point of contact, as well as into the depths. Thus an undamped (so-called heavy dehydration) cutting current is very much like the current delivered by the coagulating apparatus. Cutting effect is considerably impaired and slowed when heavy dehydration is used, and the coagulated tissues have a tendency to stick to the electrode.

A further point arises in connection with the time variable in the use of the moving electrode, as contrasted with the coagulating electrode, which is usually held at one place and then lifted to the next. It is obvious that using a given current, a given incision can be made either quickly, with one stroke, or slowly, or with repeated lighter strokes. Surgeons vary widely in their manner of using a scalpel, and just as widely in their employment of the electric scalpel. So that we arrive at another variable, making its influence felt chiefly through the time factor, namely the technique of the operator.

The animals used in the experiments were guinea pigs, and a pig. Guinea pigs proved rather unsatisfactory. The pig appeared to be ideally suited for the work until increase in size made her difficult to handle and etherize. Our plan of experiment was to make similar wounds, varying one factor at a time, thus trying to establish conclusions as to the effect of the variations used. The wounds were watched clinically, and in addition histological sections were made to study the nature of the processes in the tissues.

As we intimated at the beginning, our results were by no means uniform, possibly owing to the uncontrollable variable factors mentioned above. However, in a general way, our results were as follows:

With the coagulating current used for a given time, the zone of necrosis increases with increase of power. With constant power, the zone of necrosis increases with the time. These relationships are probably not simple ratios, although in the middle range of powers and for periods of a few seconds they seem to behave so. There is a definite lag perceptible at the start, and a slowing of the spread of coagulation if the current is continued longer than a few seconds. These changes are doubtless due to the progressive alterations in the tissues while the current is acting.

Histologically, wounds of the skin made with a needle point perpendicular to the surface are roughly hemispherical, the central core a mass of unrecognizable debris, the adjacent tissue presenting an inflammatory reaction not peculiar in any way. There is thrombosis of the smaller vessels adjacent to the wound. Histologically the area of necrosis is always a little more extensive than it appears to be clinically. The tissues are brittle following coagulation and it is almost impossible to prepare thin sections for careful study.

If the operator pushes his needle forward into the skin, the usual hemispherical zone is changed to conical. However, when the fat is reached, the current then moves laterally into the skin, giving a wide area of skin necrosis with a slender prolongation into the fat.

No distinction is evident between wounds from low currents acting for a longer period and those from higher currents acting for a shorter period.

When electrodes larger than the needle point are used the current enters the tissues over a larger area. The resistance is accordingly less, and the heat developed at any one point is considerably less. As a consequence, greater power or longer application is necessary to cause coagulation and the coagulated zone is wider but more superficial than with the point electrode.

The varieties of cutting currents were investigated in the following fashion. Identical areas of skin were excised (using a stencil) and the wounds were then sutured. Subsequent observations recorded the frequency of primary union, formation of hematomas, sepsis, and separation of sloughs. In so far as possible, wounds to be compared were placed symmetrically in relation to the animal, to insure uniformity of tension in the closure. Study was directed principally to wounds caused by currents in the middle ranges.

There was no one current which would uniformly result in first intention wounds. In general, middle range of powers were the most likely to heal by primary union. Medium and heavy dehydration currents, likewise high voltage currents, were less favorable for primary healing. Incisions made with very high or very low power currents were also less likely to heal primarily. However there were exceptions to all of these generalizations, as the accompanying specimen protocol will show.

It is probable that the time factor variable plays a considerable part in relation to the healing with various powers of current. The power determines the speed at which a cut may be made. Use of a low power usually necessitates going back over the wound to complete the incision to the depth required. This entails a second application of heat to the parts already divided by the first stroke of the electrode. On the other hand, use of a power higher than required for the surgeon's speed means surplus

Current Used						Description of Wound 12th Day
Low	Voltage	Light	Dehydration	Power	30	Healed
"	"	"	"	"	"	"
"	"	"	"	"	"	Wide open—Bleeding
						Suppurating—Wide induration
High	"	"	"	"	"	Healed
"	"	"	"	"	"	"
"	"	"	"	"	"	"
Low	"	"	"	"	40	Hematoma—No induration
						Partly healed
"	"	"	"	"	50	Healed
"	"	"	"	"	60	Partly healed—Slight discharge
"	"	"	"	"	70	Healed
"	"	Medium	"	"	40	"
"	"	"	"	"	"	"
"	"	Heavy	"	"	"	"
"	"	"	"	"	"	"

current available at every point along the incision and hence a wider zone of coagulation.

A factor which may prevent healing, even with the most favorable type of current, is the formation of hematoma in the wound. This is most likely to occur, especially with those currents which coagulate the margins of the wound the least.

It is likewise observable that tension on wound edges militates very much against primary healing.

Examination of the cut edge of a wound made with cutting current discloses a zone of coagulated tissue, wider with high voltage or advanced degrees of dehydration than with the types of current more favorable for primary union. Behind this zone of destroyed tissue there is another ill defined zone in which devitalizing changes have occurred. The histological appearance seems to differ only in degree, rather than in kind, from that caused by coagulating currents.

Suppuration was a rare complication in these wounds. It appeared to be favored by the extensive slough caused by the heavier types of current, and also by the occasional hematoma collections referred to above, following favorable types of current.

SUMMARY

The foregoing presents impressions arrived at in the course of experiments with the electrocoagulation and endotherm knife apparatus. An attempt is made to determine the specific effect of changes made in the several controllable variables presented in the apparatus, and suggestions put forward to evaluate the effect of the uncontrollable variables.

CONCLUSIONS

Because of the uncontrollable variations in current output from the machine, in spark gap adjustment, and in time of action of the current, rigid statements of quantitative relationship of current used to the wound produced cannot be made. Furthermore, the relatively small number of wounds observed (about eighty) makes us reluctant to make positive statements.

Ignoring these uncontrollable variable factors, the following relationships seem to hold good:

Coagulation increases in extent with increase in power of current used.

Coagulation increases in extent with increase in the length of time for which it is employed.

The point electrode produces more satisfactory coagulation than those with larger area of contact.

The optimum current for first intention healing is of low voltage and light dehydration. The optimum power for first intention healing is that which permits the operator to cut at his accustomed speed. Wounds caused by these currents, however, are more likely to develop hematoma, which is one of the chief reasons for the failures in primary union that occur with these currents.

Currents of heavier dehydration, high voltage, and more (or less) power than is necessary are not as likely to result in first intention wounds. The cause of failure in these cases seems to be the greater amount of dead and devitalized tissue along the wound edges.

A STUDY OF ONE HUNDRED AND FIVE GASTROENTEROSTOMIES FROM THE SURGICAL SERVICES OF THE MEMORIAL HOSPITAL, WORCESTER, MASS.

BY WALTER C. SEELYE, M.D.,* AND DONALD S. ADAMS, M.D.*

FROM 1919 to 1928 we were able to find records of 105 gastroenterostomies—not a large series to be sure, but one offering an opportunity to determine what had been accomplished by the procedure in from one to nine years.

The usual short loop posterior gastrojejunostomy was adhered to by the eight different operators.† In all cases either Pagenstecher and

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chromic catgut No. 00 or chromic catgut alone were used as suture material; nor was the end result affected in any obvious way by the type of suture used.

The following statistics were derived:

Males 71	Females 34	Total 105		
Average Age:	Females 43	Males 42		
Youngest patient:	16 (Female)			
Oldest patient:	72 (Female)			
Number dying in hospital			7	
Number dying at home after discharge			9	
Number of patients untraced			11	
			—	27
Number of patients traced				78
				— 105
Of 78 living—Symptoms relieved			68	
Symptoms unrelieved			10	
			—	78

At this point, in all fairness to the various operators, the term "unrelieved," as bearing on ten end results, should be defined. But one of this group can be termed a failure. This patient had a previous cholecystectomy and gastroenterostomy done because of dense duodenal adhesions and an x-ray diagnosis of duodenal diverticula. She is unable to work and is frequently confined to bed with pain and vomiting. The other nine patients are all working and admit that when they are careful with their diets, but little trouble is noted.

Dominating symptoms: Pain	102	
Indigestion	90	
Emesis	50	
Average duration of symptoms:	6½ Years	
Cause found for symptoms at operation:		
Ulcer, non-perforating	82	
Ulcer, perforating	6	
Carcinoma	7	
Adhesions	10	
	—	105
Site of adhesions:		
Pyloric or duodenal	10	
Site of ulcer:		
Pyloric	24	
Gastric	20	
Duodenal	41	
Site of carcinoma:		
Pyloric	6	
Gastric	1	
Duodenal	0	
Site of lesion not clearly recorded	3	
	—	105
Number having hemorrhage as a symptom		10
Cause found for hemorrhage at operation—Ulcer		10
Site of ulcers causing hemorrhage:		
Pyloric	1	
Gastric	4	
Duodenal	5	
	—	10

Operative results on hemorrhage:

Relieved		Unrelieved		Untraced	
Pyloric	1	Pyloric	0	Pyloric	0
Gastric	4	Gastric	0	Gastric	0
Duodenal	3	Duodenal	1	Duodenal	1

Deaths in hospital following operation:

1. Pyloric lesions. Died on 10th day. Persistent vomiting. No autopsy.
2. Pyloric lesion. Died on 20th day from cardiorenal disease. No autopsy.
3. Duodenal lesion. Died on 19th day. Persistent vomiting. No autopsy.
4. Stomach lesion. Died on 3rd day. Surgical shock. No autopsy.
5. Pyloric lesion. Died on 41st day. Cardiorenal disease. No autopsy.
6. Pyloric lesion. Died on 12th day. Obstruction of jejunum just beyond anastomosis. Autopsy.
7. Carcinomatous pyloric lesion. Died on 6th day. Pneumonia. No autopsy.

Deaths at home following discharge:		
Carcinoma of stomach	6	
Carcinoma of rectum	1	
Apoplexy	1	
Anastomosis at wrong part of bowel, said to have been revealed at autopsy	1	
	—	9
Patients having previous appendectomies	16	
Patients having appendectomy subsequent to discharge	1	
Other surgical procedure done at the same time with gastroenterostomy:		
Pyloric resection		
Carcinoma	1	
Ulcer	1	
Excision of ulcer		
With knife	1	
With cautery	4	

CONCLUSIONS

Our series shows a good percentage of cures, a small number of surgical mortalities and, to our knowledge, freedom from jejunal ulcer.

It is the opinion of the members of the surgical staff of Memorial Hospital that simple ulcer cases should first be treated by the internist. Where adequate medical treatment fails or where obstruction, perforation or persistent hemorrhage exists, the treatment should be surgical.

We wish to thank Dr. W. Irving Clark for his help and constructive criticism.

THE VALUE OF COD LIVER OIL FOR UNDERPAR CHILDREN OF SCHOOL AGE

BY ARTHUR D. HOLMES, PH.D.,* AND HANNA L. ACKERMAN, R.N.*

It seems to be generally accepted that underweight in children indicates a lowered body resistance to infections such as "colds" and their sequelae. Medical examination of underweight children frequently reveals incipient tuberculosis. For many decades, cod liver oil has been an accepted remedy for the treatment of tuberculosis. In view of these beliefs, it seemed desirable to determine to what extent administration of cod liver oil to school children is of value in treating incipient tuberculosis. Ac-

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cordingly, an investigation was planned which provided for feeding cod liver oil to a group of school children, who were to maintain their normal school activities.

PLAN OF INVESTIGATION

For the purpose of the investigation here reported, a group of twenty-eight school children was selected as subjects. The children, with one exception, were all underweight and could be properly considered as tuberculosis suspects, for they were all classified into one or more of four groups, namely: (a) contact cases; (b) arrested cases; (c) more or less active tuberculosis cases; or, (d) those who were running daily temperatures. The children assisting as subjects in this study did so of their own volition and with the knowledge and co-öperation of their parents and family physician.

At the beginning of the school year and at intervals during the school year, when medical examination showed that a child should be included in one of the above classifications, the child was referred by the physician making the examination to the school nurse for treatment.

The children selected in this manner were from six to seventeen years old, but with the exception of three, they were within the age limits of six to twelve years, inclusive. In order that the reader may be able to visualize the nature of the subjects assisting in this investigation they were photographed as a group (Figure 1). Included in the group are a number of children who did not complete the test, due to moving away from the school or to being excluded from the school on account of tuberculosis becoming too active to permit their continuing school activities.

Each school day all of the children called at the school nurse's office for cod liver oil. It was administered with a paper spoon, which was immediately discarded, thereby eliminating any possibility of spreading infections. Each child received one teaspoonful of oil morning and afternoon, or nearly three-fourths of an ounce per week.

NATURE OF COD LIVER OIL

The cod liver oil used in this investigation was of American origin. It consisted of a blend of 50% Newfoundland oil, 45% New England oil and 5% Canadian oil. Its chemical and physical characteristics were determined by the methods outlined in the U. S. Pharmacopoeia[1]. The following results were obtained:

Sp. Gr.	Ref. Ind.	Sapon. Value	Iodine Number	F. F. A. per cent.	Unsapon. Value per cent.
.9259	1.4850	186.66	177.81	.3510	1.174

The determination of the vitamin A potency of the oil was in accordance with the U. S. P. method, which showed it to have an excess of 1250 vitamin A units per gram. The vitamin D potency of the oil, as determined by the modified "line" method, showed it to have a potency of 100 vitamin D units per gram.

EXPERIMENTAL

The period of administration of cod liver oil was not the same for all subjects. It was not possible to start this investigation until the school had been in session a short time. Thus the experimental period for the major portion of the subjects was of thirty or thirty-two weeks' duration. The shorter experimental periods were due to children becoming members of the experimental group after the school year was more or less advanced. The average duration

FIGURE 1.

of all experimental periods was twenty-six weeks.

At the initial medical examination considerable data were collected for each subject regarding heart, lungs, eyes, ears, nose, throat, teeth, previous illnesses, and family history. In this discussion, however, attention will not be given to all these details. That portion of the data which will be considered have been assembled in tabular form and appear below:

GROWTH RECORDS

The factors of interest in considering the growth of the subjects, namely, initial weight, ideal weight, per cent. underweight, gain in weight and final weight are reported in the above table. However, it is much easier to visualize the changes in body weight of the subjects during the experimental period when these data are plotted as curves. Accordingly, such curves are included in the accompanying charts.

WEIGHT RECORD OF SUBJECTS

Subject No.	Age	Ideal Wt.	Initial Wt.	Underweight	Rec'd. Oil	Final Wt.	Gain	Comments
	Yrs.	Lbs.	Lbs.	Per cent.	Wks.	Lbs.	Lbs.	
1	6	44.0	39.0	11.0	15	42.0	3.0	Running temperature
2	9	56.0	51.0	9.0	14	56.5	5.5	Running temperature
3	6	46.5	40.0	14.0	31	43.5	3.5	T. B. Glands
4	6	50.0	45.0	10.0	26	51.0	6.0	Running temperature
5	6	50.0	48.0	4.0	31	54.0	6.0	T. B. Glands
6	8	67.0	61.0	9.0	32	70.0	9.0	T. B. Glands
7	9	74.0	69.0	7.0	16	72.0	5.5	Contact with T. B.
8	10	71.0	60.0	15.0	18	66.0	6.0	T. B. Glands
9	9	61.0	58.0	5.0	20	64.0	6.0	Running temperature
10	9	65.0	56.0	14.0	22	65.0	9.0	T. B. Glands
11	10	63.0	50.0	20.0	32	54.5	4.5	Running temperature
12	10	73.5	66.5	8.0	25	71.8	5.3	T. B. Glands
13	9	60.0	55.0	8.0	32	60.5	5.5	Running temperature
14	10	61.0	53.0	13.0	32	57.8	4.8	Running temperature
15	9	60.0	61.0	2.0*	30	67.5	6.5	Running temperature
16	9	63.0	52.0	17.0	24	65.5	12.5	Arrested T. B. case
17	11	73.0	60.0	18.0	32	68.3	8.3	T. B. Glands—Contact
18	11	79.0	75.5	4.0	32	85.0	9.5	Arrested T. B. case
19	11	83.0	77.0	7.0	26	86.5	9.5	Running temperature
20	11	85.0	71.0	16.0	16	75.5	4.5	Contact case
21	12	75.0	65.0	13.0	32	70.0	5.0	Running temperature
22	12	85.0	70.0	18.0	32	78.0	8.0	Arrested T. B. case
23	12	85.0	74.5	12.0	28	82.0	7.5	Running temperature
24	12	85.0	78.0	8.0	32	86.5	8.5	Incipient T. B.
25	14	95.5	95.0	2.0	32	104.3	9.3	Arrested T. B. case
26	14	118.5	102.5	13.0	26	106.5	4.0	Arrested T. B. case
27	12	88.0	73.0	17.0	30	84.5	11.5	T. B. Glands
28	17	127.0	104.0	18.0	17	110.0	6.0	Running temperature
	Average				26		6.7	

*This subject was 2.0% overweight at the beginning of the test.

From a consideration of the above data it will be found that the subjects were classified as three contact cases, five arrested cases, nine more or less active tuberculosis cases, and twelve who regularly had afternoon or continuous temperature noticeably above normal.

Referring to the above table, it will be noted that nearly sixty per cent. of the subjects were ten per cent. or more underweight at the time that they became members of the experimental group. One child, No. 15, was one pound, or nearly two per cent., over the ideal weight for his age and build. With the exception of three subjects, the age limits were six to twelve years inclusive. The older subjects showed the greatest deviation from their ideal weight. Of the eight subjects who were 15% or more underweight, one, ten years old, was 15% underweight; one, eleven years old, was 16% underweight; a twelve year old and a nine year old were 17% underweight; a nine, a twelve, and a seventeen year old were 18% underweight; and one ten year old subject was 20% underweight.

All the children assisting in this study gained in weight during the test period. The least gain was by subject No. 1, who gained three pounds during the 15 weeks. At the beginning of the test he was 11 per cent. underweight and at the end of the test was 5 per cent. underweight. The greatest gain was made by subject No. 16, who gained 12.5 pounds during 24 weeks. This was a child whose tuberculosis had been arrested and who had been excluded from school for one year in 1927.

The average gain in weight for the group was 6.7 pounds and the average duration of the experimental period was 26 weeks. It is reported[2] that children of the age of the subjects of this investigation should normally gain about one-half pound per month, or an eighth of a pound per week. Thus the average gain in weight for normal children during 26 weeks would have been 3.25 pounds. In this instance the average

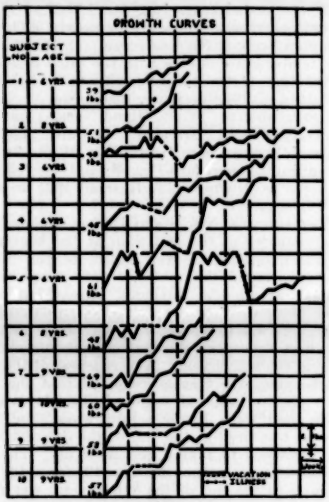

CHART 1.

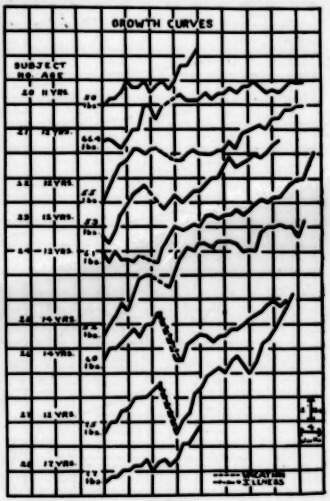

CHART 3.

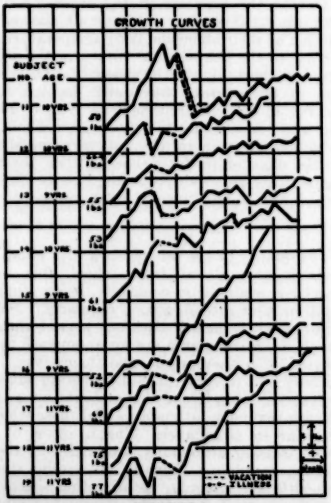

CHART 2.

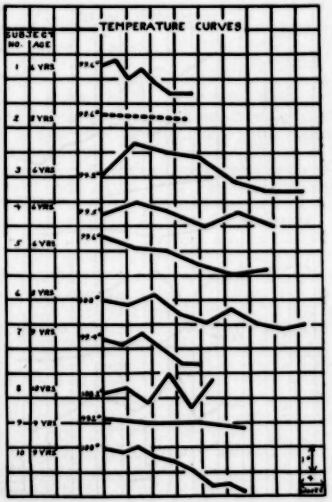

CHART 4.

gain was 6.7 pounds, or approximately 3.5 pounds greater than the normal rate of growth.

TEMPERATURE RECORDS

In connection with the initial medical examination, a record was made of the body temperature and at intervals during the investigation the temperature of each subject was taken. These data have been compiled and plotted as curves in the charts that follow. For some unexplained reason, in two instances, subjects No. 2 and No. 17, the temperature was recorded only for the be-

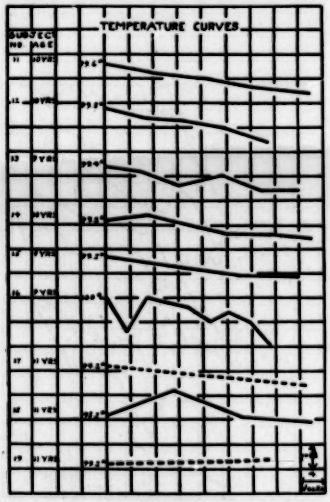

CHART 5.

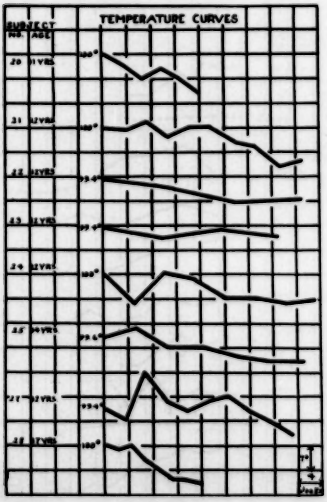

CHART 6.

ginning and end of the test. Accordingly, the temperature curves for these subjects appear as broken line curves.

Reference to the charts shows that when the study was inaugurated, the temperature of the subjects varied from 98.2° to 100.2°. Of the twenty-eight subjects, eight or nearly 30%, had temperatures of 100° or more. On comparing the temperature curves with the table it will be noted that of the subjects with an initial temperature of 100° or more, three, Nos. 6, 8, and 10, are listed as "T. B. Gland" cases; one No. 16, is listed as an "arrested T. B. Case"; one No. 20, is a "contact case"; two, Nos. 21 and 28, are "running temperature" cases; and one, No. 24, is listed as "incipient T. B. small spot on apex of left lung."

Two subjects, Nos. 8 and 19, had higher body temperatures at the end than at the beginning of the experiment. The report of the initial medical examination of No. 8 was "heart rapid, tubercular glands, adenoids, diseased tonsils, poor posture." As a result of these conditions this child was excluded from school the most of the first semester—she was absent forty days during the school year. Nevertheless, at the end of the year, the teacher reported that she had been absent less, had enjoyed the playground more, had done better school work, and had seemed less tired at the end of the day than she had previous to taking cod liver oil. The increase in temperature for No. 19, from the beginning to the end of the experiment, was relatively insignificant.

During the progress of the experiment, the remaining twenty-five subjects all showed reduction of their abnormal body temperature. Referring to the temperature curves in the accompanying charts, it will be noted that the reduction in temperature was quite decided for a number of the children, such as Nos. 3, 10, 21 and 27. Considering the group as a whole, the reduction of temperature was very gratifying. At the close of the experiment, when the final temperature records were made, twenty children were found to have normal temperature.

ABSENCE RECORD

The quality of the school work of a child who is frequently absent from school, due to ill health, is ordinarily decidedly below that of children who attend school regularly. School children whose health does not permit them to attend school regularly are an annoyance to the teachers, the other pupils, and themselves. The teachers find it very difficult to obtain satisfactory school work from classes containing those who are regular in attendance and those who are irregular in attendance. The progress of the strong, regular attendants is retarded by the irregular attendants. Finally, those who, due to ill health, are irregular in attending school are soon hopelessly lost in their attempt to maintain the grade and speed of school work which is readily maintained by the regular attendants who are not handicapped by ill health.

In view of these conditions it seemed of interest in this investigation to compare the number of absences of the children receiving cod liver oil

during the period of the experiment with the number of absences during the previous school year. These data are summarized in the table which follows:

RECORD OF ABSENCES

Subject No.	Days Absence Last Year	This Year	Comments
1	11	none	Passed grade last 2 years
2	13	½	Failed last year, passed this year
3	21	4	Passed last year, failed this year
4	28	18	Passed last 2 years
5	18	6	Failed last year, passed this year
6	16	none	Failed last year, passed this year
7	41	21½	Passed grade last 2 years
8	—	1st 3 mo.	Passed grade
9	5	none	Passed grade last 2 years
10	33	16	Failed last year, passed this year
11	16	none	Passed last 3 years
12	33	22½	Failed last year, passed this year
13	14	none	Passed last 2 years
14	10	5	Failed last year, passed this year
15	4	none	Passed last 3 years
16	68	29½	Failed last year, passed this year
17	none	9	Passed last 3 years
18	6	none	Passed last 3 years
19	9	none	Passed last 3 years
20	19	none	Passed last 3 years
21	—	—	Passed grade
22	30	½	Passed last 3 years
23	1	none	Passed grade
24	12	none	Passed last 3 years
25	T. B. San. over 1 yr.	none	Failed last 2 years, passed this year. Health better now than in September
26	8	none	Passed last 2 years
27	27	10	Failed last 2 years
28	16	8	Passed last 3 years
Total*	459	150½	

*Subjects Nos. 8, 21 and 25 are excluded in computing the Total.

Referring to the above table, it will be noted that the records of two subjects, No. 8 and No. 21, are incomplete, and that No. 25 was in a tuberculosis sanatorium for more than a year previous to the period of this investigation. Accordingly, the absence records of these three subjects were excluded when the total absences were computed. One subject, No. 17, was not absent during the year previous to the experiment but during the year that she received cod liver oil she was absent from school nine days.

Considering the absence record of the group as a whole, one is impressed by the striking difference in the number of absences during the period that cod liver oil was administered as compared with the number of absences by the same group during the previous school year. During the school year of the test, the group was absent a total of 150½ days, whereas during the previous year the group was absent a total of 459 days. In other words, the group was absent from school only one third as much during the school year when cod liver oil was administered as during the previous year.

Considering the absence record of the group, it is also of interest to note the effect of more regular attendance on the quality of the school work. Referring to the chart, it will be noted that fifteen of the subjects passed their grade both the year of the test and the year previous. One subject, No. 3, failed to pass during the year of the test but passed the year previous, and No. 27 failed to pass both years. Obviously, the record of No. 25 should not be considered in this connection since she was confined at a sanatorium and could not devote full time to her school work. It may be noted, however, that the general physical condition of No. 25 improved during the period that cod liver oil was administered. Seven of the children who failed to pass the year previous to receiving cod liver oil passed their grades during the year that they received cod liver oil. Accordingly, considering the grade as a whole, it is evident that the school work was more satisfactory and of higher quality the year when the group received cod liver oil than during the previous year.

DISCUSSION

It has been observed that medical examination of underweight often reveals incipient tuberculosis. It is also well known that for a long time cod liver oil has been a recognized remedy for tuberculosis. Accordingly, it seemed desirable to determine to what extent the administration of cod liver oil to school children would be of value for the treatment of incipient tuberculosis.

Twenty-eight school children, who were classified as (a) contact cases, (b) arrested cases, (c) more or less active tuberculosis cases, or (d) those who were running daily temperatures, were selected as subjects.

A cod liver oil of high vitamin content was administered each school day. The experimental period varied for different subjects, but on the average was of twenty-six weeks' duration.

All subjects gained in weight during the test. The average gain in weight was six and seven-tenths pounds during the average twenty-six weeks' experimental period. It has been estimated that normal school children, during a similar period, should gain three and a quarter pounds. Thus the subjects averaged to gain three and a half pounds more than normal children of the same ages.

The abnormal body temperature of twenty-five subjects decreased during the experimental period. By the end of the test, the temperature of twenty subjects had returned to normal. On the other hand, the body temperature of three subjects was higher when the test ended than at the beginning.

The number of days that the group under consideration were absent from school during the year that they received cod liver oil was very markedly below the number of absences for the same group the previous year, in spite of a "flu" epidemic in the schools during the year in which

the test was made. The total number of absences for twenty-five members of the group for the year of the test was 150½ days, while the same group was absent 459 days the previous year.

SUMMARY

Twenty-eight school children classified as tuberculosis suspects were given cod liver oil of high vitamin content at school, five days per week, for an average period of twenty-six weeks.

During the experimental period the children averaged to gain 6.7 pounds per child, as compared with 3.25 pounds, which is the normal rate of growth for the same period.

At the beginning of the experiment a considerable portion of the subjects had elevated temperatures. During the school year, the body temperature of twenty of the subjects returned to normal.

A comparison of the number of absences from school during the test and during the previous year is of more than passing interest for there were 150½ days absences for the group during the test and 459 days absences during the previous year.

Obviously, in attempting to evaluate the results obtained in this investigation by administrating ten teaspoonsful of cod liver oil per week to tuberculosis suspects of school age, one would not attribute the improvement in weight, in body temperature, in absences from school, and in scholarship solely to the administration of cod liver oil. Undoubtedly other factors must be considered in this connection. However, the results obtained in this investigation show such a definite increase in weight, decrease in abnormal temperatures and absences from school, as well as improvement in scholarship, that one must conclude that the cod liver oil was a very important factor in the decided improvement experienced by the individuals comprising the group under observation.

The authors acknowledge with thanks the assistance of the physicians who gave generously of their time to make the many necessary physical examinations of the subjects of this investigation. The authors are also very grateful for the untiring interest of the members of the school staff in the investigation here reported.

REFERENCES

1 The Pharmacopoeia of the United States of America, Tenth Decennial Revision. J. B. Lippincott Company, Philadelphia, Pa. Pages 263-264.
2 The School Child's Health, Prepared by The American School Hygiene Assn. and The American Red Cross, page 5 Teaching Health—Health Education No. 4, Department of the Interior, Bureau of Education, page 15.

TWO CASES OF ACRODYNIA

BY R. GURALNICK, M.D.*

IT seems to me that the old adage, "once seen never forgotten" applied to acrodynia does not always hold true, because of the fact that the most prominent sign accompanying this disease, the erythema, is not necessarily so pronounced and typical as to impress one with its entity. As a matter of fact, the rash accompanying it is so multivarious as to be frequently diagnosed either as an urticaria or as one of the exanthemata. As to the nervous manifestations and the other symptoms, they are probably frequently dispensed with as digestive upsets.

Again, the conception of an etiology which attributes the disease to a vitamin B deficiency, or to a lack of some other vitamin, should be discarded. The patients whose cases are here presented were getting food with all the vitamins known and in sufficient amounts. On the other hand, both patients showed a marked infection of the naso-pharynx throughout the whole course of their illness. This etiological factor is also well substantiated by C. W. Wyckoff of Cleveland, in a short but very able article on this subject, published in the *Journal of Diseases of Children*, in the January number of 1929.

The fact that one could come across two cases of acrodynia in a comparatively short time shows that the malady is by no means infrequent and it makes it rather imperative to bear this disease in mind, as the treatment depends a good deal on its recognition.

CASE I†

Milton D., a 7½ months old boy was admitted to the Boston Dispensary Hospital, February 27, 1928, with a history of loss of weight, inflamed eyes, fretfulness and a rash of two days' duration. The child had been an ambulatory patient of the same institution since he was five months old. When first brought there he weighed 15 lbs. He was of full term and of normal birth; the birth weight was 11¾ lbs. He was breast fed for three weeks and was then put on various formulas. The family history was irrelevant. The chief complaint when the child was first seen was diarrhoea and from the history it seemed to have been due to a high carbohydrate intake. He was given a formula of milk, water and dextrimaltose and also a sufficient amount of orange juice and cod liver oil. At six months he weighed 17¼ lbs. When admitted to the House Service with the history as stated above, after an absence of six weeks from the outpatient department, the child weighed 16 lbs., showed a marked photophobia and a pronounced universal eruption somewhat resembling immature chickenpox. The muscle turgor was very poor. The tonsils were enlarged and congested. The rest of the physical examination, as well as all the laboratory findings, was negative. The child spent fifty-nine days in the hospital. During that time the rash continued and varied both in intensity and in character from bright red macules to bluish blotches and was confined chiefly to the extremities. The conjunctivae were inflamed and the photophobia was marked. On trying to avoid the light the child con-

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†For this case I am indebted to Dr. Elmer W. Barron, Chief of Staff, Pediatric Department, Boston Dispensary, under whose supervision I had the opportunity of observing patient.

stantly buried his head in the pillows. Appetite and sleep were not much impaired and his disposition not fretful. His throat remained congested throughout his stay in the hospital and his temperature ranged between 99 and 100, with several excursions up to 104. At the end of two months the rash and photophobia had almost entirely cleared up. The child's weight on discharge showed a gain of only 1 lb. over that of entrance.

The patient subsequently died at home of an intercurrent infection.

CASE II

Mary B. M., who had been under my personal care since the age of five weeks, was a child of full term and of normal birth, weighing 8 lbs. 6 oz. at birth. She had been on the breast alone up to three months and since then on supplementary feeding consisting of milk, water, and Mellin's Food. Orange juice had been given the child since six weeks of age and cod liver oil started when she was three months old, cereals were added to her diet at five months. The child developed normally and at the age of nine months weighed nearly 19 lbs., was still on the breast and in addition to that was getting a quart of milk a day, also orange juice, cereals and vegetable soups. About this time the child had developed an urticarial rash over the entire body, more pronounced at the thighs; she was also very fretful. Three weeks later her condition became worse. She was very restless, refused feedings most of the time and had a "cold" continuously. The rash, which had disappeared for a while, had now reappeared. She constantly scratched and chewed her hands and rubbed her feet, also she pulled her hair. She slept only in short naps and the anorexia was marked. On physical examination the child presented a very pitiful appearance and was very nervous. She had no fever. The tonsils were enlarged and the entire pharyngeal vault was congested. Heart and lungs were normal. The rash was distributed in blotches and the color varied from red to a bluish-red. The skin was moist.

At the parents' request the child was referred to the Infants' Hospital where she remained two weeks. The course in the hospital was afebrile and in addition to the rash, the child developed a moderate photophobia. At this time the skin began to desquamate, leaving raw, almost ulcerating, areas on the distal portions of the extremities. The throat remained injected and the child continued to be very nervous. All laboratory findings were negative. Ten weeks after the appearance of the first symptoms the child began to show signs of improvement, such as a slight gain in weight and subsidence of the nervous symptoms. Her appetite also improved. The rash still persisted, however, in various parts of the body, particularly at the extremities. At present the child is much improved, although the photophobia still continues and the extremities appear clammy and slightly discolored. Also gain in weight is slow.

SUMMARY: In the two cases of acrodynia here presented, the patients showed symptoms of a rather non-characteristic rash, photophobia, and loss of weight. One had marked nervous symptoms. Both also showed a marked infection of the naso-pharynx. The etiology must be considered as due probably to that infection rather than to a vitamin deficiency.

PROTECT THE DOCTORS' RIGHTS*

BY FRANCIS D. DONOGHUE, M.D.†

STATISTICS show that about eighty-five per cent. of our street and highway accidents are due to the presence of automobiles on our roads. No less a personage than our chief magistrate, President Herbert Hoover, is authority for the statement that "while the rate of accidental deaths in our country from other causes has steadily decreased, due to better safety measures, yet during the past ten years our automobile accidents have doubled". The ratio of increase is continuing so that within another decade the increase in such accidents will be three hundred instead of two hundred per cent.

Along with the increase in automobile accidents and deaths resulting therefrom, have come increases in the costs of insurance and the other fees and charges which go towards making the careful, average motorist believe that he is selected as a sort of Mr. Easy Mark to bear every burden which city and state force upon him, solely because he has money enough, or credit good enough, or the foresight or lack of it, to buy a motor vehicle. The tax collector is out to collect from him as much as he can get the law-making body to empower him to collect; and when tax collectors, tax commissioners, and tax-seeking bodies determine that new means of taxation must be devised, their first thought seems to be of the man or woman who owns and operates an automobile.

There is much talk of fraud in the making of claims. There is a great deal of smoke in the air, but no constructive step has been taken by any one to get to the bottom of the alleged frauds or to clear the air from the smoke. Yet one of the surest and best of remedies is available if those interested in fair play and square claims will make provision for the payment of reasonable fees to the physicians and surgeons of the Commonwealth direct to them from the insurer who pays the claim.

Last year the State Department of Registration in Medicine recommended an annual enrollment of physicians. That seems a little too drastic to many but the medical profession may well stand for a housecleaning by having at least *one* registration at this time.

Certainly, any step that can be taken to prevent fraud or clear our skirts of fakirs, is desirable.

The physician who treats and examines an injured person should be kept impartial by giving him separate and independent rights against the insurer, or state fund, if such a fund is enacted into law. The hospital which takes an injured man or woman for treatment also should be given an independent claim or lien against the fund provided by the compulsory

*Read at the Dinner of the Massachusetts Society of Examining Physicians at Boston, January 15, 1930.

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automobile law. They furnish valuable consideration for the payment to them of reasonable fees for their services. The moment their services are rendered, a contract arises by implication under which payment becomes legally due.

What can the medical profession do to see that these fees are paid? Neither the doctor nor the hospital should be compelled to depend upon the generosity of the injured person to pay him out of any sum received by him in settlement of his claim, nor should the members of the medical profession be made in any sense a sort of joint-claimant with the injured person as a condition precedent to the getting of their fees for professional services. A simple section in the law, making provision for the payment of the services furnished by doctor and hospital will at one stroke relieve them from the possibility of non-payment of their bills and give them independent and impartial standing.

If we cannot secure an amendment providing for the payment of the sum due to a physician or hospital direct by the insurer, then we can and must get an amendment enacted which shall give us a lien on any sum which may become due to the injured person, with a provision for a hearing in case the bill as rendered is disputed by him. Such a provision will protect the physician and hospital, will work no hardship upon the man who is injured, and will make it impossible for the person injured to avoid his legal liability to those who made possible his recovery from the effects of his injuries.

The last available statistics in regard to auto accidents are for the Policy Year 1927.

These show that the Insuring Companies actually paid for medical cost $2,552,730 and have incurred and set aside on cases not settled, the sum of $2,813,286 or a total of $5,366,016; this on a total of paid and incurred claims—310 death claims and 35,000 other cases of total or partial disability.

It is, therefore, evident that the insurance companies recognize their obligations to the physician much more than we are wont to believe.

It is also evident from our experience that there is a lapse between the insurance companies paying the money and the doctor to whom it is due.

In order that hospitals and physicians may have the protection to which they are entitled under the present or any substitute compulsory automobile law, I propose that a paragraph in amendment thereto, giving such protection, be proposed to the Legislature and that the hospitals and medical men of the Commonwealth support such a measure.

This amendment is patterned after that in effect in Rhode Isand, which gives lawyers a lien upon the proceeds of any action instituted by them, whether in an action under the automobile or under any other law of that State. (See General Laws of Rhode Island, Chapter 301, Section 32.)*

The proposed amendment is as follows:

"Whenever the relationship of hospital and patient, or physician and patient, has been entered into under an implied or express contract for service, the hospital or physician, or both, shall have a lien to the reasonable value of their interests or services in the claim of the patient under the Compulsory Automobile Liability Law (General Laws, Chapter 90, and amendments thereto). No settlement either before or after judgment shall invalidate the lien of the hospital or physician, but the same may be enforced like any other lien against the money or thing of value which is the consideration for the settlement, or the parties if they have made a settlement may be proceeded against jointly and severally in an action at law and shall be jointly and severally liable to the hospital or physician, or both, for the full value of their lien in accordance with the implied or express agreement."

Under General Laws, Chapter 152, so-called Workmen's Compensation, Section 30, the word *reasonable* also appears. Under this section of the Workmen's Compensation Act, for the year ending July 1, 1929, the sum of $3,090,450 was paid to hospitals and doctors and from July 1, 1912 to July 1, 1929, total payments to hospitals and doctors were $29,263,172.

Neither a provision for the direct payment of medical and hospital bills, nor an amendment giving the physician and hospital a lien on the sum due as damages under the compulsory automobile law, will be added to the law without active and energetic efforts on the part of the medical profession. There is a feeling that only the injured person himself is entitled to protection. The lawyer who represents him can readily protect himself, since he is the one who first receives the check in settlement of the injured person's claim, or is present when payment is made direct to the injured person. The lawyer can collect his fee and he does collect it on the spot. There is no thought of denying him pay-

GENERAL LAWS OF RHODE ISLAND
1923

Chapter 92, Section 22

No claims for compensation under this chapter, or under any alternative scheme permitted by article 1 of this chapter, shall be assignable, or subject to attachment, or liable in any way for any debts.

Chapter 301, Section 32

Whenever the relationship of attorney and client has been entered into by an implied or express contract for service, wherein the attorney does not agree to be responsible for costs of suit the attorney shall have a lien to the value of his contractual interests in the cause of action, claim, demand, counter-claim or other matter concerning which the contract is entered into.

From the time notice is given by an attorney of the said relationship of attorney and client to the person or party against whom a claim, demand or counter-claim is made, or a cause of action or other matter is pending, the attorney's implied or express agreement shall begin to operate as a lien, and no settlement either before or after judgment shall invalidate it, but the same may be enforced like any other lien against the money or thing of value which is the consideration for the settlement, or the parties if they have made a settlement may be proceeded against jointly or severally in an action on the case at law and shall be jointly and severally liable to the attorney for the full value of his lien in accordance with his implied or express agreement. (P. L. 1917 Ch. 1515.)

ment for his services. But the physician whose practice demands all of his time and attention, and the hospital representatives whose time is required by hospital duties, cannot follow up each individual patient and be in attendance when the claim is adjusted. Their protection must be provided for in the law itself. Otherwise, in most instances, under the present practice, their bills will not be paid.

Therefore, I suggest that steps be initiated to secure the enactment of legislation which will tend to bring out the results which we so much desire.

I recommend the appointment of a committee. I believe the members of the medical profession, including representatives of hospitals, should initiate, promote and secure the adoption of legislation which will give the profession reasonable rights under the existing and any proposed compulsory automobile laws.

EXCERPTS FROM THE REPORT OF THE COMMONWEALTH FUND

New York, February 26.—Devoting the major part of its income to activities in the fields of public health, preventive medicine, and mental hygiene, and to the enrichment of British-American relations, the Commonwealth Fund, according to its eleventh annual report published today, made appropriations totalling $2,028,759.26 during the year ending last September 30. Of this sum, $1,366,674.26 was applied to special enterprises directed by the Fund through its several divisions and committees, and the remainder, $662,085.00, was distributed among thirty-eight outside organizations, hospitals, and universities in the form of grants for special purposes.

Among the year's developments were the opening of two new rural hospitals and the adoption of a new public health program in this country; the establishment of a child guidance clinic in London; and the completion of the Fund's child health program in Austria—the six years of co-öperative effort resulting in the cordial acceptance by the Austrian Government of responsibility for continuing practically all the activities conducted during that period. The last of a series of four child health demonstrations in the United States was within a few months of completion as the year ended.

In the Fund's mental hygiene activities the year has been one of consolidation and technical progress. The Institute for Child Guidance, maintained by the Fund in New York City, received an increased number of children for treatment and enlarged its quota of students for professional training. The National Committee for Mental Hygiene was enabled to continue, through its Division on Community Clinics, advisory service to communities wishing to begin child guidance work and to establish clinics. Provision was similarly made for continuance of the service of the National Committee on Visiting Teachers, in promoting professional training in that field, presenting the elements of visiting teacher work to teachers and school administrators, carrying on a limited number of demonstrations, and giving counsel to interested communities.

With the opening of two new hospitals and the continued work of two previously established, four rural districts, one each in Tennessee, Virginia, Maine, and Kentucky, are now provided with general hospitals of their own, as a result of the Fund's activities. Additional hospitals have been opened in two more districts, in Kansas and Ohio, since the close of the year covered by the report. It is estimated that through this program some 410,000 people are enabled to enjoy near at home the safety and convenience of hospital service which in former years they had to seek at a distance or forego altogether. The objectives of this program are far wider, however, than the provision of these facilities, for these constitute only the central part of a general attempt to raise the level of rural health through stimulating the medical profession and the public in the localities, to develop practicable public health services suitably linked with the hospitals, and to foster an intelligent interest in preventive medicine.

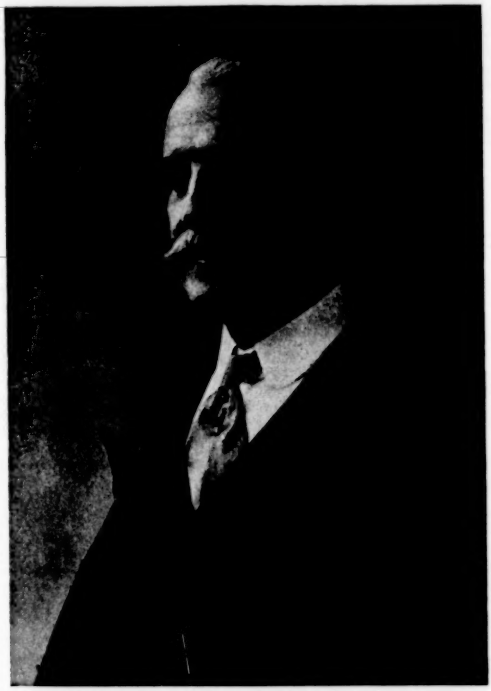
The new public health program, with 1930 as its first year, will draw upon the experience both of the child health demonstrations and of the rural hospitals, but will provide a fresh approach to rural health problems. In an effort to encourage the development of both public health and general medical service in rural communities, specific contributions to professional education will be set up in each of two or three states. The projects, to be initiated and administered by the state health departments, will include the formation of a field staff to build up local health organizations and the establishment of well-rounded health units in two selected districts. The educational projects will include the strengthening of the medical schools which chiefly train doctors for service in the selected states, scholarships or loan funds for students of medicine who intend to enter rural practice, and fellowships for rural physicians who wish to improve their grasp of the best current technique.

Among the special grants made by the Fund were several to be applied to medical research—for example, the study of the causes and treatment of cardiac trouble in children, at Johns Hopkins; a study of sera and vaccines significant for the control of cardiac disorders, at Cornell University; the research work of the Heart Committee of the New York Tuberculosis and Health Association; an investigation at the University of Michigan looking toward the development of a blood test for tuberculosis; the study of epilepsy and multiple sclerosis at the New York Neurological Institute; and continued work on serum treatment for the pneumonias by Dr. William H. Park.

A grant of $50,000 was made to the Notre Dame Bay Memorial Hospital, at Twillingate, Newfoundland, supplementing previous grants to this hospital, the only one in 300 miles of seacoast. The institution serves 50,000 people, mostly fishermen and their families, and has been successful in enlisting their confidence and support. The local community has already contributed more than $80,000, besides much free labor. On one occasion 600 men gave two days' work to move a frame building three miles over snow and ice to provide a nurses' home.

VINCENT YARDLEY BOWDITCH, M.D.

BY GEORGE H. MONKS, M.D.*



VINCENT YARDLEY BOWDITCH, M.D.

Vincent Yardley Bowditch—who was destined to pass most of his life in laboring persistently for the welfare of others—was born in Weston, Massachusetts, July 7, 1852, and he passed there his early years. He was the son of Dr. Henry Ingersoll Bowditch and Olivia (Yardley) Bowditch; and the grandson of Nathaniel Bowditch, the celebrated mathematician and navigator, who was also the translator of La Place's *"Mécha-nique Céleste"*.

He graduated from the old Brimmer School in Boston; prepared for college at a private school kept by E. S. Dixwell; entered Harvard, and graduated in 1875. In college he stood well in his classes; he also figured occasionally in the athletic contests there; he was a member of a number of prominent college societies, and also of the Harvard Glee Club; he was popular with his fellow-students, and was always a prominent figure among them. He was Chief Marshal of his class on Class Day.

After a three-years' course at the Harvard Medical School, and a year's service as Medical House-Officer at the Massachusetts General Hospital, he received, in 1879, his degree of M.D. He then went to Europe, where he attended lectures and clinics in different medical centres. Finally, in September 1881, he returned to Boston, and began there the practice of his profession.

HIS MEDICAL PRACTICE: He was soon appointed Physician to the *Carney Hospital*, and somewhat later to a similar position at the *Boston City Hospital*, and he carried on his work in the two institutions for a number of years; but about 1901 he was obliged, owing to pressure of work in other directions, to re-

*Monks—For record and address of author see "This Week's Issue," page 499.

sign both of these positions. He was then appointed Consulting Physician at these two hospitals, and also Consulting Physician at the *New England Hospital for Women and Children*. He held for a few years a teaching position at the *Harvard Medical School*, but this he gave up at about the same time.

In the meantime his attention had been more and more attracted to a consideration of the proper treatment of pulmonary tuberculosis,—thus following closely in his father's foot-steps. He had become intensely interested in the sanatorium idea, and with this in mind he went to Europe in 1889, and visited the sanatorium of Dr. Hermann Brehmer, at Goerbersdorf, Silesia; and, shortly afterwards, that of Dr. Dettweiler (who was Brehmer's former pupil) at Falkenstein, near Frankfort, in Germany. At both of these institutions he had the opportunity of witnessing sanatorium treatment at its best, and he acquired therefrom much practical knowledge, although there appears to have been at the two establishments a difference of opinion as to the desirability of absolute rest during the treatment.

He was full of enthusiasm about these places, and said that "they have been and will continue to be sources of inspiration as long as I live." He spoke of Brehmer as being "really the first man in modern times to prove the efficacy of treatment which involved the maximum of fresh air and judicious supervision of the patient at a critical time." And, further, he said: "Both Brehmer and Dettweiler believed, however, that a comparatively high degree of altitude was necessary in the open-air cure of tuberculosis, and at that time this belief was shared by others. Up to 1891 no definite experiment had been tried to adopt the same general methods at low altitudes, and it remained for later investigators in this country,—notably in New England,—to show that remarkable and most encouraging results could be obtained at low altitudes and in most inclement climates provided that healthful situations were selected and proper supervision of the patients employed."

Filled with enthusiasm for the beneficial effects which the sanatorium treatment promised for the treatment of consumptives, Dr. Bowditch established, in 1891, the *Sharon Sanatorium* at Sharon, Massachusetts—a private charitable institution for women and children. He himself was made its medical director, and thereafter, as long as he lived, he devoted much of his time and energy to taking care of the patients and in developing the work there.

He was also instrumental in establishing the *Rutland Sanatorium* at Rutland, Massachusetts,—the first state sanatorium (for tuberculosis) in the United States,—and he held the position of Attending Physician for eight years from the date of its opening, October 1898. In both of these institutions his work was chiefly devoted to proving, in a most practical way, that many people who have tuberculosis, and who for any reason are unable to enjoy the benefits of a milder—or, at least, a healthier—climate may regain their health by proper methods of life;—and this, even in the harsh, changeable climate of New England, at a comparatively low altitude, and at no great distance from the sea. The excellent results which he obtained in these efforts *attest the great value of his work there!*

One of the outstanding characteristics of Dr. Bowditch's activities was that he was always abreast of the times, and sometimes even in advance of them. The pioneer work that he did in establishing at the Sharon Sanatorium what is known as the *Children's Pavilion* (the Preventorium); and, at the *Central New England Sanatorium*, at Rutland, a department where the patients might engage in work, according to their various capacities, and be, to some extent, remunerated therefor, well illustrates the wisdom of his foresight. At the last named institution he was Chairman of the Board of Directors from the beginning, and he was instrumental in raising the funds necessary for its operation.

He also always kept in touch with the other localities where the sanatorium treatment of tuberculosis was being carried out, and he was ever on the watch for anything new in the way of treatment. He was, of course, always keenly interested in the work that Dr. Trudeau was doing in the Adirondacks. He was also connected with a number of institutions as consultant, and he was recognized everywhere as an expert in the treatment of tuberculosis.

Believing as he did in the preventive treatment of disease as well as in its curative treatment, he was ever on the alert to assist all agencies working for the public welfare in matters of health; and he was equally ready to oppose any agency that worked against it. Not infrequently he attended public hearings on health matters, and spoke there. Being active in fighting for pure air conditions, he was strongly opposed to what is called "the smoke-nuisance," and also to unnecessary noise.

His private practice, in Boston, was a large one, and his services were eagerly sought by patients, especially those afflicted with diseases of the chest.

HIS SOCIETIES: He was a member of a number of medical societies, both national and local; the principal national ones being the American Medical Association, the American Climatological and Clinical Association, and the National Tuberculosis Association (of which he was one of the founders in 1904, and President, 1908-1909); and the local ones being the Massachusetts Medical Society, the Massachusetts Tuberculosis League (founded in 1914, and of which he was the first President), the Boston Tuberculosis Association, and a number of

others. He was President of one of the Sections at the International Congress on Tuberculosis, held at Washington, D. C., in October 1908.

HIS WRITINGS: He wrote numerous papers on medical subjects, principally connected, directly or indirectly, with tuberculosis in its various forms, or else with public health, sanatoria, etc. A few of his written words have already been quoted, concerning his visits to the sanatoria of Drs. Brehmer and Dettweiler. They were taken from a detailed description of his visits there, under the heading of *"Medical Reminiscences"*.

Dr. Bowditch travelled a good deal from time to time—not only in this country but abroad—often for the purpose of visiting health centres, but also to attend meetings, at which he not infrequently read papers, or presented communications of one sort or another.

His vivid description of the ceremonies at St. Paul's, in London, on the occasion of the memorial service held there in 1910 in honor of *Florence Nightingale*, just after her death, clearly shows his intense interest in her noble work, and his admiration for what she represented; as well as his own satisfaction at being able himself to attend the ceremony.

His chief literary production, however, was the *"Life and Correspondence of Henry Ingersoll Bowditch"*, which, in two volumes, appeared in 1903. In these books, by an ingenious selection and arrangement of his father's correspondence, interspersed, here and there, with his own comments, he succeeded in presenting such a series of word-pictures of his father, as not only to give to the reader an outline of his father's personality, but almost a finished portrait! Dr. Bowditch, the father, was a distinguished physician here, whose name will always be remembered because of his many activities for the benefit of the public, and especially (1) on account of his having been the first advocate of the operation of thoracic paracentesis for the removal of pleuritic effusions; (2) because of his published opinion as to the causative relation between soil moisture and the prevalence of consumption in New England; and (3) because of his devoted work, as one of the founders, and then as one of the Presidents of the Massachusetts State Board of Health, and later as a member of the National Board of Health.

In the collecting, arranging, and editing his father's correspondence Dr. Vincent Bowditch certainly paid a gracious tribute to his father's memory, and at the same time made a valuable contribution to the history of medicine in Boston.

HIS PERSONALITY: After the death of his father Dr. Bowditch and his sister made their home together;—a home in which the spirit and the practice of hospitality were ever present. He had numerous friends and acquaintances, professional and otherwise, and in different walks of life; all of whom respected him, and many of whom, on account of what he was, what he stood for, and what he accomplished, were devotedly attached to him. Dr. Bowditch never married.

The rare combination of qualities that he possessed was always evident throughout his life. One of the most outstanding of his qualities was his loyalty—loyalty to his country, to his family and friends, and to his ideals! Another one was his desire for service. He was constantly occupied—in one form or another—in helping the sick and the unfortunate, and in working for the proper health conditions in the community. In spite of his usually mild and modest demeanor he was full of courage, and ready to fight—and he did fight—whenever the occasion required it. And then his intelligence, his persistence in overcoming obstacles, his high ideals, his love of music and art, and his sense of humor, together with his delightfully uncomplicated and sympathetic nature, did their full share in contributing to the vigor and attractiveness of his personality. He was one of those men, who, by their strong and beautiful character and their good works, tend to elevate the tone of the profession to which they belong, as well as to set an inspiring example to their fellows.

He died, in Boston, December 20, 1929. It is doubtful whether he ever fully realized the nature of the malady which was to cause his death. It was later proved to be tuberculosis—*that dread disease which he had fought so persistently in others during his entire life!*

MEDICAL PROGRESS

PROGRESS IN GASTROENTEROLOGY FOR 1929

BY A. E. AUSTIN, M.D.*

MUCH experimental knowledge in regard to both secretion and absorption of the gastrointestinal tract has been added during the year, a field which apparently had been cultivated to its limit.

Clinical observations, too, of great value have been made in many of the rarer forms of digestive diseases and many follow ups of the results of operative intervention have been carried out which must be of great value to the clinician in recommending operation to his patient.

OESOPHAGUS

A careful study of two cases of idiopathic dilatation of the oesophagus has been made by Sterling-Okuniewski[1] who has arrived at certain conclusions as to causes and treatment.

In the first place he found that the dilatation was usually secondary to a spasm of the cardia and the latter was often periodic induced by weariness, sorrow or excitement.

The x-ray showed a perfectly facile journey of the food bolus from the pharynx to the stomach under normal conditions, while under the emotions mentioned above, even a swallow of water failed to pass the cardiac obstruction while pain and vomiting followed.

In one case a gastrostomy was done and the patient fed by tube for 3 weeks when deglutition again became normal: six months later, however, dysphagia returned and an anastomosis was made between the oesophagus and the stomach when again deglutition became normal.

The second case was relieved by forcible dilatation of the narrowed portion according to the method of Stack.

The author concludes that in most cases the employment of atropin, pilocarpin and adrenalin will be sufficient to stop the spasm; this means failing, a dilatation by means of sounds is indicated but an anastomosis or gastrostomy should be the last resort as the difficulty may be overcome by forcible dilatation.

GASTRIC SECRETION AND PERISTALSIS

Torning[2] has studied 150 cases of pulmonary tuberculosis with reference to their gastric chemistry since so many of these unfortunates have dyspeptic symptoms.

The tests were made on all whether complaining of indigestion or not and immediately on entering the hospital before any treatment was begun.

As a result of this examination it was found that 9 had a complete achylia, 13 hypoacidity and 128 had either normal or increased acid values of the gastric contents.

The author expresses surprise that so few had low acid values since gastritis is supposed to accompany pulmonary tuberculosis. By comparing these figures with those of 150 patients taken at random from those who were non-tuberculous, it was found in the group 20-30 years and 30-40 years that achylia and hypochlorhydria were more common than in the tuberculous.

Ohly[3] has collected 428 cases of hepatic disease of whom 32 were operated and 16 had conjoined diabetes in whom a careful examination has been made of the gastric contents to determine what, if any, influence the pathological liver exerts on the gastric secretion.

Of the non-operated cases, 380 in number, hyperacidity was found in 94, normal acidity in 145, subacidity in 61 and achylia in 80.

Upon comparing the length of the illness from the first symptoms, the author found that the shorter the period, the more likely the patient was to have hyperacidity and with the progress of the disease the secretion of hydrochloric acid gradually diminished so that among the achylies were those who had suffered longest from the disease; hence it is not so much the violence of the attacks in the acute disease which affects the gastric secretion as it is the length and chronicity of the hepatic disease. The author maintains that when cholelithiasis can be associated with gastric achylia and stones can be demonstrated in the gall bladder, there should be no delay in the removal of the offending organ as infection is much more liable to be exaggerated and treatment of the achylia must be continued long after the removal of the gall bladder.

In spite of the skepticism of the medical profession in regard to syphilitic gastritis, Herman[4] describes a case and states the following factors on which a diagnosis may be based: (1) when an achylic stomach bleeds; (2) when a previously healthy stomach suddenly begins to bleed; (3) when there is no relation between gastric pain and the quantity and quality of food; (4) when the patient can eat heavy foods without discomfort and cannot eat light foods; (5) when there is no relation between the time food is taken and the inception of pain; (6) when a patient vomits without any pain; (7) when a patient loses weight and appetite without any recognizable cause; (8) when a gastric achylia resists all the usual forms of treatment for a long period; (9) when an x-ray is negative and still the patient has hematemesis, vomiting and pain; (10) when gastric pain occurs at night; (11) when the x-ray shows a filling defect and still the patient has no cachexia and a good appetite.

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The diagnosis can, of course, always be made certain, if the gastric contents give a positive Wassermann test. The author, while acknowledging the rarity of the condition, declares that no more grievous mistake can be made than to operate these cases when a thorough anti-luetic treatment will restore them to health.

Attracted by the fact that after a barium meal, a low lying stomach (gastroptosis) empties much more slowly, due to diminished peristalsis than a normal or high lying one, Plaschkes[5] has sought for other influences which may influence gastric peristalsis.

After noting the peristalsis through the screen, sodium bicarbonate and tartaric acid were given and it was readily seen that when the gastric walls were under tension, the peristalsis increased both in depth and rapidity of the waves. It was also noted that during the height of the distention, the pylorus closed firmly and did not open until by eructation the patient had relieved himself of some of the gas.

Furthermore it was noted that during every inspiration, if exaggerated, the peristalsis became much more vigorous: with this increased peristalsis the pylorus is seen to open. The clinical application of this phenomenon is seen in the relief which a neurotic experiences when, complaining of epigastric pressure, he sighs or yawns. The author also suggests as a therapeutic measure, deep breathing exercises for the sluggish peristalsis, of neurotics, particularly when gastroptosis is present.

DISEASES OF THE PANCREAS

Recognizing the great difficulty of obtaining pure pancreatic juice for examination in solving the many problems in diagnosis of pancreatic disease, Simnitsky and Mamisch[6] have tried a new method whose general principles were as follows: milk was chosen as an excitant of pancreatic secretion and as fat must be avoided because of its excitation of bile, the milk was allowed to sour which removed the casein and the residuary fat was eliminated by decantation: after the introduction of the duodenal tube 30 C.C. of 33% magnesium sulphate was forced into the duodenum and after the fluid withdrawn by aspiration became colorless (freedom from bile), 60-70 C.C. of the whey warmed to 38 degrees C. was introduced.

In a period of 40 to 45 minutes after this act, suction which was carried out every 5 minutes, produced a pure pancreatic juice. The amount, however, was small so that the pancreas was stimulated to greater activity by the injection of 10 units of insulin.

In this way 60-100 C.C. of pancreatic juice could be obtained before the action of the insulin ceased.

This method employed upon 22 patients with various diseases proved very efficient in determining the integrity and activity of the pancreas.

Rawitsch[7], acknowledging the great difficulty of diagnosing the diseases of the pancreas, has made a study of three cases of chronic pancreatitis in endeavoring to learn how they can be distinguished from malignant disease of that organ.

First it is always necessary to obtain duodenal contents when the patient is fasting, without any secretory stimulant, and, if the value of the ferments is found below the lowest normal for a healthy individual, we may conclude that we have before us a chronic pancreatitis for malignancy of the pancreas, being local and affecting either the head or the tail of the organ, does not interfere with its secretion for a long time.

The x-ray in all cases showed a distortion of the ascending duodenum in that a horseshoe bending to the right was found which, of course, did not distinguish pancreatitis from malignancy but indicated diseases of the organ.

In conclusion the author recommends where a positive diagnosis cannot be made that the abdomen be opened and, if chronic pancreatitis be found, the capsule be split which relieves the symptoms of jaundice and pain.

DISEASES OF THE LIVER AND BILIARY PASSAGES

That the ordinary tests of liver function by means of galactose and levulose as employed in the clinic often fail in cirrhosis of the liver, Wendt[8], has devised a new test which is fairly efficient.

The patient is given 100 C.C. of olive oil with 5 grams of cholesterin.

Four hours afterward he is bled and the blood after coagulation shows, in normal individuals, a marked cloudiness, i.e., lipaemia.

In 4 cases of hepatic cirrhosis, the serum was found clear in 3 instances, 4 hours after ingestion of the oil and in one individual in whom the disease was complicated with diabetes, the serum was somewhat cloudy. In 6 others including 3 of abdominal cancer and one of tubercular peritonitis, the serum was also found clear.

In conclusion the author regards the test as one of differentiation between a normal and a diseased liver and not one found exclusively in cirrhosis of the liver.

Luetkens and Gehrke[9] have made a careful clinical study of the effects of various parts of the hepato-biliary tract on disease of the same. Their extract known as choloton is made from the hepatic duct, the rest of the choledochus, the mucous membrane of the gall bladder and liver tissue.

The extract is very bitter and must be given in capsules, one of which must be taken before eating three times a day.

This treatment was employed on 151 patients who had had attacks of gallstone colic, 26 of

whom came under treatment directly after their first attack. Eighteen of the latter had no recurrence of pain and could be discharged as cured. Eight were relieved but were not free from associated symptoms of cholecystitis; in the remainder in whom gallstone colic had existed for years, 14 remained without relief and colic occurred at intervals; among this group were 9 who had had cholecystectomy but still continued to have the same attacks of pain as previous to the operation.

The authors recommend that a thorough course of treatment with cholotон should be carried out before proceeding to surgical intervention in those obstinate cases uninfluenced by medical treatment.

Peitman[10] in his opening sentences declares that, while cholecystography has often been of aid to him in many cases, in others it has so obscured the diagnosis that he has been wholly at a loss to determine the character of the disease.

His dictum is that a well observed gallstone colic is better than ten good Röntgen pictures.

His observation material as stated in the title comprises 650 cases, 600 women and 50 men of whom 41 died from operation or a fatality of 6.3%.

Naturally as a surgeon he recommends an early operation as soon as the diagnosis is established, thus avoiding empyema and rupture of the gall bladder which add so much to the operative risk. He also urges restriction of the diet after the operation until the flow of bile reëstablishes itself to the changed conditions. The author is also convinced that every cancer of the bile ducts and liver other than a few metastases comes from the irritation of the gallstones in the gall bladder. He states positively that no woman should be allowed to reach the menopause age with stones in the gall bladder as that seems to be the age when most contract cancer of the biliary tract or the liver.

Rectal irrigation for jaundice and for the prevention of gallstone formation has been practiced empirically but it has been left for Garbat and Jacobi[11] by experimental proof to show an increased flow of bile after these irrigations.

Their method was to cleanse the colon the night before the test with an enema and the duodenal tube passed to remain in situ until the next morning when after, by the aid of the x-ray determining that it was actually in the duodenum, efforts at aspiration were made. Following this a large size colon tube was introduced as high as possible and various solutions introduced; after this the colon tube was clamped and left in place. Shortly after this, aspiration was begun on the duodenal tube and the time of the beginning and cessation of the flow of bile noted.

In each of 8 cases it was noted that in from 3 to 12 minutes after the introduction of various solutions (physiological salt solution, dextrose solution, peptonized milk and various drugs) into the colon, a flow of bile was detected from the duodenal tube which lasted 18 to 61 minutes. Air alone introduced into the colon would not cause the flow of bile. By means of contrast material and the x-ray it was possible to prove that this bile comes directly from the liver and not from the contraction of the gall bladder.

A complete clinical and pathological study of 56 cases of malignant gall bladder has been made by Judd and Baumgartner[12] who confirm former opinions as to its frequency and establish some new principles: for instance women are afflicted with cancer of the gall bladder three times as often as men. A summary of their work is as follows: the incidence of cancer of the gall bladder is about 0.5% of all lesions operated and rarely occurs before 50 years of age. Although the symptoms of this disease are not in any way an entity, 70% of all cases have a long history of gallstone colic followed finally by a short phase of constant pain, anorexia, vomiting and loss of weight. There is no associated anemia in cancer of the gall bladder. In 1/6 of the cases there is anachlorhydria and in the remainder the free hydrochloric acid averages around 32 and the total acidity, 48. Stones are found in the gall bladder in 94% of malignant cases. The type of growth is chiefly adenocarcinoma, followed in frequency by squamous cell epithelioma and sarcoma.

GASTRIC AND DUODENAL ULCERS

Landau and Glass[13] have had their attention called to the frequency of low blood pressure in instances of gastric and duodenal ulcer and in order to prove the possibility of causal relation of hypotension to ulcer have compared 61 cases of proven ulcer with 63 cases of functional gastric disturbance among which were included 40 cases of cholecystitis. The blood pressure was taken in all cases under the same conditions; that is on the first or second day of advent in the hospital, before breakfast and with the same instrument. In only 10 of those suffering from functional gastric disorder (63), was the maximum blood pressure found to be below 100: in the 61 cases of ulcer, the blood pressure was found to be below 100 in 25 instances.

From this the authors conclude that a low blood pressure by inducing a sluggish circulation in the stomach and duodenum, tends to increase the possibility of ulcer: this comes about by an associated lack of equilibrium in the vasomotor system with an ischemia in the stomach walls and lack of nutrition.

The *authors* suggest this factor, i.e., low blood pressure, in differentiating functional gastric disorders or cholecystitis and true pyloric or duodenal ulcer.

Jenner[14] has found many cases of gastric ulcer which, in spite of the ordinary medical and dietetic treatment, have refused to heal. Provided that there are no indications for surgical intervention (pyloric stenosis, etc.) he has employed the Röntgen rays with rather remarkable success. Of a total of 32 cases, 7 proved obdurate to this treatment but 25 were cured as far as was shown by x-ray and the amelioration of symptoms. The particular advantage of this method of treatment is that the patient need not give up his business or employment. The details of the application of this treatment are a trifle too complicated and technical for a general review but familiar to all Röntgenologists.

Hartman and Rivers[15] attempt to answer the question of how often other diseases are masked by ulcer symptoms and missed until demonstrated by operation.

Their material comprises 1075 patients who were operated at the Mayo clinic, 700 for duodenal ulcer and 375 for gastric. The most common associated condition was chronic appendicitis. Only once was a malignant lesion found when the diagnosis was duodenal ulcer. Acute and subacute appendicitis are often unquestionably masked by the ulcer symptoms. When the gastric ulcer is diagnosed, it has been found in 2.1% of the cases that the ulcer symptoms masked a malignant growth of the stomach as shown at the operation. Cholecystitis was found in 3.6% of the individuals in whom the diagnosis was duodenal ulcer.

The rarer conditions which the ulcer obscures are duodenitis, benign tumors, Meckel's and duodenal diverticulum.

While many of these conditions are unimportant and need not influence the method of treatment either way (medical or surgical) an effort should always be made to differentiate gastric from duodenal ulcers on account of the possible malignant degeneration of the former.

This is emphasized by the fact that gastric ulcer was found in 3.6% of the cases in which duodenal ulcer had been diagnosed.

GASTRIC AND INTESTINAL CANCER

Finsterer[16], after reiterating the necessity of early diagnosis and delivery to the surgeon of victims of gastric cancer, calls attention to the much better record of operative deaths, now obtained in all good hospitals. He also believes that in any case of doubt of the diagnosis, it is much better to make an exploratory laparotomy under local anesthesia where under ordinary conditions the risk is zero than to wait until a positive diagnosis can be made when the growth is too far advanced for a successful removal of the same.

Finsterer has operated on 535 persons for gastric cancer of whom 340 underwent a resection and 8 a total extirpation of the stomach. The others proved on opening the abdomen to be inoperable. The author divides these operations into two classes; one where the cancer involved only the stomach and a second where other organs in the abdomen were invaded such as pancreas, liver and colon.

Two hundred and eleven fell in the first group of whom 13 died from the operation, a mortality of 6.1%. In the second group were 129 cases of whom 53 died from the operation, a mortality of 41%.

Of 199 of these whose operations date back 5 years or more, 50 are still living after periods of 5-15 years. Ten years after operation only 14 remained alive which is partially attributable to the fact that many were over 60 years of age when operated and died from other causes without any return of the cancer.

Mandl and Pacher[17] have reviewed the cases of rectal cancer which have entered Hochenegg's clinic during a period of 4 years.

There were 220 of these but some of them refused operation and others were treated with x-ray and radium so that for statistical purposes only 123 cases can be counted of whom 76 had a radical operation and 47 only a colostomy: of the former 7 died from the operation or a mortality of 9.2%. The greater number of these individuals were between 50 and 60 years of age. A subsequent check up of those with a simple colostomy, showed an average period of life of 14½ months.

Of those who underwent the radical operation after 3 years 31.5% were living; after 5 years 27.2% were still living.

Kraus[18] has made an observation which, if verified, by others, will be of great assistance in the diagnosis of cancer of the gastrointestinal tract. In one case of gastric cancer the author detected, one and one-half years before the symptoms of indigestion, a swelling of the right testicle. In another, one year before symptoms developed pertaining to the stomach, enlargement of the right testicle was found and in still another the same condition was found two years before a growth was easily palpable in the stomach with enlargement of the left supraclavicular glands. In none of the cases was there the slightest chance of a venereal infection as origin of the swelling nor was it a primary tumor for the swelling subsided under treatment.

INTESTINAL ABNORMALITIES

Since it has been proven that the ingestion of even large quantities of hydrochloric acid and sodium carbonate has no effect on the feces Scheer[19] has endeavored to learn whether enemata of the same substances have any influence on the reaction of the feces.

In order to prove more surely the absorption of these substances in the lower bowel after a clysma, the urine was tested as to its increased acidity or alkalinity. Infants of less than a year

old were employed in the investigation who received by enema, 80 C.C. of milk to which 6.4 C.C. normal hydrochloric acid were added. Another series received the same amount of milk with ¾ gram of sodium bicarbonate. It was found that in two hours after the injection of the acid, the urine had increased 1/3 in acidity and conversely in 4 hours the alkalinity had increased or rather the acid had been diminished to the same extent. Hence it is proven without doubt that the walls of the colon are capable of absorbing both acid and alkali.

Berg[20] has made a careful study of colonic diverticulitis and come to some unusual conclusions: this condition is found most often in elderly obese men and chiefly in the sigmoid region though it may be found at times, in any part of the colon.

While usually harmless and detected by routine x-ray examination, by retention of fecal matter and subsequent inflammation, a train of events may be started which vary from occasional constipation to severe peritonitis. The formation of extraintestinal tumors, often with hemorrhage and stenosis may lead to the suspicion of cancer. The greater part of the so-called cases of sigmoiditis are based on a diverticulum. The ease with which both the diverticulum and even the inflammation can be detected by the radiologic examination after a clysma of contrast material leaves no excuse for its lack of use in a routine examination of the gastrointestinal tract. Conservative treatment by diet and liquid petroleum is usually sufficient. Perforations or ileus must at once be treated by surgical means.

While largely of surgical interest Strauss[21] declares that this condition of elongated or distorted sigmoid possesses claims on the internist because it explains many symptoms, otherwise without appreciable cause. This abnormality usually demonstrates itself in 3 forms (1) a condition of subileus or of volvulus (2) definite forms of abdominal colic (3) chronic constipation, particularly of the painful kind. The diagnosis is made largely by the x-ray though colicky pains in the left lower quadrant with stools accompanied by blood and extensive mucous shreds make the diagnosis probable. This condition is almost always associated with stagnation of fecal matter which in turn may tend to produce complete obstruction, by volvulus or may induce cancer which often has its site in the sigmoid.

To avoid these possibilities when a dolichosigmoid has been demonstrated, daily movements must be induced, better by oil and rectal irrigations.

GASTRIC AND DUODENAL PERFORATIONS

Paugger[22] has had an opportunity to study 89 cases of free perforation of the stomach or duodenum and makes some very interesting suggestions. Eight individuals had never had any digestive disturbance until the catastrophe; seventy-five have had indigestion from 2 weeks to 20 years: six were moribund when brought to the hospital and no history could be obtained. All those whose history could be learned complained of a peculiar pain, cutting, sudden and severe, either in midepigastrium or in the right upper quadrant, followed by weakness and often fainting. Vomiting may follow or precede the pain. The operation consisted of sewing up the rent and performing a gastroenterostomy as most of the patients had a stenosis.

Of the 85 operated, 16 died, 13 from perforation peritonitis and 3 from other causes. It was very noticeable that of the 46 operated within 6 hours after the perforation, only 2 died, substantiating the well-known fact that the sooner the operation, the greater the chance of saving the patient.

Replies from 36 of these patients one and one-half years after operation, showed 26 to be perfectly normal eating whatever they wished; seven were restricted as to diet but were otherwise well while three still suffered from symptoms of ulcer.

Recognizing the great difficulty in diagnosing gastric and duodenal ulcers which have perforated, Neller[23] has discovered some new points which will aid us in such diagnoses.

When the patient is lying flat upon the bed or table, the finger of the examiner is placed over the navel while pressure is exerted and released; when there is a small umbilical hernia as in his case or when the navel is loosely closed as often happens, this pressure of the finger produces a peculiar crepitation which indicates air in the peritoneal cavity. His suggestion that this be tried in all cases suspected of perforation may lead to its value as a diagnostic criterion in this pathological condition.

The author also calls attention to the peculiar respiration of these victims; short, rapid and superficial in character in which the beginning of the respiration is accompanied by a grunt. Then, too, when the patient is asked to sit up, it is noticed that the abdominal muscles remain in a flaccid state while the patient raises himself with the aid of his arms. This occurs much earlier than the flaccidity of the recti in respiration.

PHASES OF APPENDICITIS

In order to clear up the uncertainty in regard to the value of the x-ray examination in the detection of appendicitis, Druckman[24] has varied in some degree the method of administration of the barium when a gastrointestinal series is made.

After the initial ingestion of the barium shows only a partial filling of the appendix, he finds that a subsequent dose of barium will often

cause complete filling of that organ: hence after the initial examination of the stomach, the patient is given two more packages of the barium, one to be taken the same night and the other the next morning 6 hours before the second examination. If at this second examination the appendix is not found filled, it is regarded as pathological.

His conclusions are as follows: (1) the greatest value of the x-ray examination rests on the fact that, if the appendix fills, it is normal; (2) if there is tenderness over the cecum with a filled appendix, it speaks for a pericolitis, often tuberculous. (3) The pathological appendix does not fill; the normal appendix may, however, fail to fill. (4) Great tenderness over the cecum with an unfilled appendix usually means appendicitis. (5) Adhesions of a filled appendix point to a former inflammatory process but that the organ at the time of examination is normal. (6) Changes in the shadow of the appendix in the course of examination have no value.

The abdominal symptoms found in influenza, so-called intestinal grippe, may according to Wachsmuth[25] so simulate appendicitis that often recourse is had to laparotomy, only to find a normal appendix. Hence the author has made a careful study of 13 cases and calls attention to many diagnostic points of difference. One point of great distinction is that in influenza there is no leucocytosis. Furthermore though the McBurney region is very tender there is no muscular spasm and further the abdominal symptoms are of short duration (2-3 days) while the cough, fever and muscular pains may continue.

The cause of this localized pain has been variously attributed to pneumonia with diaphragmatic pleurisy, hyperemia of the mucous membrane of the cecum, swelling of the glands, hemorrhage into the rectus and neuralgia; at least it is not due to appendicitis for the only case of the thirteen, operated showed a normal appendix while in 20 autopsies of those dying from influenza and its sequelae, not one showed any inflammation of the appendix.

GASTRIC RESECTION AND ITS EFFECTS

Much curiosity has been aroused as to what happens to metabolism after complete removal of the stomach and Breitenbach[26] has had an opportunity to make such studies on two cases.

In the first case, 5 weeks after the removal of the stomach for cancer, a test of 3 days' duration was carried out on a diet containing 2200 calories divided in the usual manner, i.e., a balanced ration: the loss in the feces of protein was 3.79%; of fat 7.97% and practically no carbohydrate, factors which compare favorably with those of a person with normal digestion.

The second individual had survived the total resection of the stomach, also for cancer, 6 months when the test was made. Again the protein loss in the feces was 3.7%; the fat 6.9% and no appreciable carbohydrate was found. These figures are also practically normal ones. Hence the author concludes that the intestine can take up and carry on the functions of the stomach in digestion.

Another case, that of a patient who had had a total resection of the stomach for ulcer 6 and ½ years before was examined for the condition of his blood and evidences of pernicious anemia found such as erythrocytes, 1,800,000; hemoglobin, 39% and color index, 1.08.

The connection between disturbances of the gastrointestinal tract and pernicious anemia has long been suspected and it has been Glatzel's[27] good fortune to be enabled to study two such cases.

The first was that of a man in whom autopsy showed numerous diverticula of the descending colon about the sigmoid which x-ray had failed to detect during life; one of these had perforated causing peritonitis. His disease while at the hospital had been diagnosed as essential anemia with erythrocytes, 1,100,000; hemoglobin, 35% and a color index of 1.6. His stomach contents contained no free hydrochloric acid, even after the injection of histamin.

The second case was that of a woman in whom autopsy showed adhesions of the ileum and jejunum, forming a blind sack of 25 centimeters in length with atrophy of the mucous membrane. The clinical findings were almost wholly those of a pernicious anemia with erythrocytes, 2,000,000; hemoglobin, 55% and color index, 1.4. The gastric contents showed a free hydrochloric acid of 6 and a total acidity of 12.

While not claiming that the anemia was the result of the intestinal condition in either case, the author urges that greater attention be paid to the condition of the blood in intestinal diseases and vice versa.

Hochrein[28] has made a study of pernicious anemia with total resection of the stomach involving two cases which came under his observation.

The first was that of a man who had had his stomach removed 8 years before for cancer. His blood showed erythrocytes, 1,560,000; hemoglobin, 54% and color index 1.7 with all the other stigmata of an essential anemia. Another, a woman, had had her stomach removed 9 years before on account of gastric and duodenal ulcers; her blood gave erythrocytes, 3,420,000; hemoglobin, 43% and color index 0.7; although this should strictly be placed among the secondary anemias, the author regards it as closely associated with pernicious as marked improvement took place on a liver diet.

From these cases the author concludes that the absence of gastric juice, found almost in-

variably in pernicious anemia, is not due to the blood disease but that the latter is caused by it.

MISCELLANEOUS

Calling attention to the rarity of muscular tumors in the small intestine, Steindl[29] describes three cases which were operated and draws some conclusions as to diagnosis. From the first patient a tumor, weighing 2050 grams was removed which filled the left upper quadrant. Its similarity to an enlarged spleen made a diagnosis of splenomegaly probable but the growth proved to be myosarcoma arising from the lower duodenum and upper jejunum.

In the second case a myosarcoma twice the size of a man's fist was removed from the upper part of the jejunum.

The third case showed, on opening the abdomen, a myofibroma attached and growing from the upper part of the jejunum. In all these cases from all the factors which could be elicited, the diagnosis before operation was that of a tumor of the mesentery. The symptoms and clinical history of all three cases varied so, having little in common except a palpable tumor, that little reliance could be placed on x-ray findings and other physical signs in reaching a diagnosis.

Waltzberg[30] has had occasion by subsequent operation to demonstrate the formation of gallstones in the gall bladder stump left after cholecystectomy.

For 5 years after the first operation, the patient was free from pain. Then there began again severer attacks of pain in the right upper quadrant, requiring injections of morphine to quiet them. Another short period of relief followed, then pain, rise in temperature and jaundice occurred. The second operation, approximately 7 years after the first showed the remnant of the gall bladder to have distended and widened and in this was found a stone 3 by 3½ centimeters. The author is positive that no fragments of stone were left at the first operation.

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Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 16101

GENERALIZED BLEEDING IN A SCHOOLGIRL

MEDICAL DEPARTMENT

An American schoolgirl fourteen years old entered November 26 for study. The chief complaints were black and blue spots on the legs and arms for six months and menorrhagia for two months.

The spots had appeared chiefly on her limbs without obvious cause. She had also had frequent nosebleed, continuous slight bleeding from the mouth following tooth extraction six weeks before admission and menorrhagia for the last two menstrual periods. With the onset of the ecchymoses she had a digestive upset and vomited. A physician gave medicine containing arsenic. In June she did not menstruate, the doctor said because of the medicine. She had no regular period for the following three months. During the summer she had frequent nosebleeds after blowing her nose, sometimes lasting an hour. The black and blue spots continued to appear at intervals and she also noticed small red spots all over her body. At intervals her ankles and feet seemed swollen. Six weeks before admission she had three teeth extracted under gas-oxygen. Following this she had rather profuse bleeding for seven hours and a half, and since that time had had a little bleeding at night. Six weeks before admission she had a profuse menstrual period for the first time in four months. Two weeks before admission another period of profuse flowing began, lasting like the previous one for seven days. The patient said she had always been dyspneic on slight exertion; this her mother did not confirm. Her mother thought there had been some vaginal bleeding and hematuria; this the patient denied.

The family history is unimportant.

The patient had the minor diseases of childhood. At four years she had very severe attacks of cramps, pain and general weakness diagnosed as rickets and reported cured by an emulsion. The February before admission she had a right-sided pneumonia keeping her out of school for a month. She had frontal headache from reading. Her teeth had been poor, requiring much dentistry. She had fairly frequent sore throats and tonsillitis at least once every winter. She had a good appetite and confessed to eating a great deal between meals.

Clinical examination showed a well nourished girl with the lower legs thickly freckled over with ecchymoses. Many also on the hips, breasts, face and arms, and also areas suggesting bruises on the arms, breasts and legs. On the corner of the lower lip were what appeared to be "cold sores" with bloody crusts. Several very carious teeth. The gums oozed blood at one or two points. Tonsils large and hemorrhagic. Ecchymoses over the soft palate and pharynx. Thyroid palpable. Shotty cervical glands. Heart not enlarged. A soft blowing systolic murmur heard all over the precordia, best at the base. It was thought the tip of the spleen was felt. Pelvic examination: the introitus admitted one finger. The bladder was full. The fundus was not made out.

Before operation amount of urine not recorded, specific gravity 1.030 to 1.012, occasional leukocytes at all of five examinations, occasional red cells at three, sediment loaded with red cells at a fourth. Blood before operation: hemoglobin 75 per cent, reds 4,460,000 to 4,600,000, leukocytes 12,300 to 8,200, polynuclears 65 per cent. Smear at admission normal except that the platelets seemed diminished. Bleeding time 26 minutes at admission, 12 December 9, 14 December 13. Smear December 9 showed 31 per cent polynuclears, 42 per cent lymphocytes, 27 per cent mononuclears, many with round non-lobulated nuclei. The lymphocytes showed some young forms with deep staining cytoplasm. Stools: guaiac positive at one of two examinations. Hinton negative. Clotting time one hour and five minutes. Clot retraction poor.

X-ray examination showed no abnormalities of the teeth or sinuses.

One surgical consultant asked if the results of ultraviolet radiation in such cases had been checked up in this hospital, and also suggested operation. Another reported success with ultraviolet radiation and thought operation might be postponed until the school vacation in summer. A third reported that ultraviolet light had not been at all successful; that deep X-ray therapy had been used with success in some cases; and thought operation the proper treatment. A medical consultant advised typhoid vaccine intravenously, followed by operation as soon as possible in case the bleeding time should drop to five minutes. Another medical consultant thought operation should be done.

Protein shock treatment was tried in an effort to restore the platelets and lower the bleeding time. There was a good reaction to 50,000,000 typhoid bacilli given intravenously December 23. 75,000,000 were given December 6 and 100,000,000 December 9. The bleeding time came down to twelve minutes.

December 14 operation was done. The following day the pulse was still very rapid, but other-

wise the condition seemed good. December 16 the bleeding time was four minutes. There were 2 to 10 platelets per high power field in a stained smear. The patient was having a rather stormy time, with much abdominal pain, and tenderness in the region of the incision and in the left upper quadrant. That night there was obvious development of a deep wound hematoma. The pulse was still 120 to 140 and the temperature up to 104°. The lungs were clear. 400 cubic centimeters of blood was transfused. December 19 she looked and felt much better, but still ran an unexplainable fever, 101° to 103.5°. December 21 the platelets seemed slightly decreased. That day she was worse. The wound was probed and an enormous amount of blood and serum released. Following this she seemed distinctly worse and vomited considerable bile stained fluid. The upper abdominal tenderness seemed to have extended and there was also tenderness in the right lower quadrant. Peristalsis was practically absent to auscultation, although an enema the night before gave fairly good results. 300 cubic centimeters of blood was transfused. The leukocyte count was 70,000. There was jaundice. The temperature now showed daily wide swinging, 100.2° to 105.5°, pulse 124 to 161. December 23 the blood pressure still ran at about 80. There was no more vomiting and she was passing a little gas with the rectal tube and had some audible peristalsis. The icteric index was 40 to 50. The temperature, pulse and respirations rose higher daily. There was thought to be some pneumonia at the right base December 25. The abdomen changed little except that the wound was wide open and drained a good deal of thick yellowish fluid. She had some peristalsis most of the time. There was very little tenderness in the abdomen.

December 26 a lung consultant found râles at both apices in front and dullness and diminished breathing over the right scapula. He believed there was bronchopneumonia in both lungs, probably with collapse at the right base. That day a portable X-ray film showed the left diaphragm apparently high. The left lung was clear. There was homogeneous dullness obliterating the outline of the right diaphragm and the right border of the heart. The dullness rose upward along the axillary line nearly to the apex, probably representing a collection of fluid. The right lower lobe was less than normally radiant.

The following evening the patient had vomiting, relieved by lavage. December 27 she died.

Clinical Discussion

BY A. V. BOCK, M.D., AND GEORGE W. HOLMES, M.D.

NOTES ON THE HISTORY

Extraction of teeth in the face of a history that, had it been taken, would have made any man hesitate to undertake such an operation—that is often a part of the history in this type of case.

This story is of course very suggestive of so-called purpura hemorrhagica. But the differential diagnosis is not one that can be easily made. We will go on with the history before taking that up.

I think the fairly frequent tonsillitis, etc., may be significant. We do not know the cause of the type of purpura this girl had. But it is not uncommon to find purpura hemorrhagica in patients who have large cryptic tonsils with a history of tonsillitis, sometimes without the history. The absence of that history does not rule out chronic infection in such tonsils.

NOTES ON THE PHYSICAL EXAMINATION

"It was *thought*" the tip of the spleen was felt; so the chances are it was not felt.

Of course the bleeding time is quite prolonged. Up to that point there is nothing in particular about the blood findings. The rather slight leukocytosis is a very common feature of purpura hemorrhagica. The bleeding time begins to make the diagnosis pretty certain.

We cannot say very much about the differential count because the later story shows that she was given three or four injections of typhoid bacilli, each time associated with chill, and that sort of thing we have to take into account. I cannot tell what it does to the white count.

That is a very prolonged clotting time and one that we should not ordinarily expect to find in a case in which the diagnosis of purpura hemorrhagica is being considered, because the clotting time is only rarely prolonged in that condition.

The discussion about ultraviolet radiation goes back to a paper that came from the New Haven Hospital by Sooy and Moise* in which they reported the cure of six cases of purpura hemorrhagica by very severe exposure to ultraviolet rays,—exposures lasting twenty-five or thirty minutes, producing actual blistering of the skin. Since that time they have produced no further report. We tried it out in a half-hearted sort of way on a patient without getting any results. I should suppose that the treatment had not proved as successful as they first thought it might be. One might expect to get no more than temporary relief from bleeding, possibly one or two months.

In Germany it has been found that milk, peptone or typhoid bacilli when injected bring out the blood platelets in increasing numbers so that the bleeding time is brought back to normal. She had a chill after each injection. I noticed later that her chart showed a little fever from the time these injections started.

The operation was of course a splenectomy, as it seemed to be the opinion of most of the people who saw her that splenectomy was indicated.

*J. W. Sooy and T. S. Moise, Treatment of Idiopathic Purpura Hemorrhagica by Exposure to Mercury Vapor Quartz Lamp; Preliminary Report. J. A. M. A., 87:94-95, 1926.

I do not see why the fever should be unexplainable in a wound of this kind full of blood, which is one of the finest culture media we possess.

It would be rather strange if this youngster did not develop a terminal pneumonia.

It is interesting to have these lung signs December 26 on the right side. If the signs were on the left side it would be easy to account for them by fluid from irritation of the diaphragm due to removal of the spleen. A common complication after splenectomy is pleural effusion of the left chest. Because of the dullness we further expect she had a fairly profuse bronchopneumonia as a terminal event. All this last picture is presumably one of general peritonitis which could have started through infection incident to the big wound hematoma which was infected fairly early. She ran an unusually long course from December 14 to December 27 for a peritonitis. I should say there is some question as to when the peritonitis started.

DIFFERENTIAL DIAGNOSIS

The interesting thing about this patient is the question as to how the diagnosis is made. We make the diagnosis, purpura hemorrhagica. What does that diagnosis depend upon? We make it here because of spontaneous bleeding from the mucous membranes. Other types of purpura do not usually bleed from the mucous membranes. I am speaking now of the so-called idiopathic type of purpura in which there is spontaneous bleeding from the mucous membranes and into the skin, and on examination of the blood dimunition of the blood platelets. The bleeding time is prolonged and often there is very little or no interference with the clotting time and no clot retraction, associated with the fact that the platelets are greatly reduced. We do find somewhat the same picture of bleeding in Henoch's purpura, in which the skin picture may be very much like that of purpura hemorrhagica. It is also associated with sepsis, or toxins of one sort or another like benzol, or infections like tuberculosis or typhoid fever or diphtheria. Almost any acute infection may be, in certain instances, associated with the same type of bleeding, but the blood does not show the reduction of the platelets that we have in the so-called idiopathic type. Barring the presence of any such infections or the presence of industrial poisons like benzol, the diagnosis of purpura hemorrhagica is certain if there is bleeding from the mucous membranes, bleeding in the skin, and the platelets in the blood smear or by count show great reduction in numbers. These are the earmarks from the standpoint of the blood in the diagnosis of purpura hemorrhagica. We have aside from the types of purpura due to sepsis or toxins, the simple rheumatic purpura, Schönlein's, which may have ecchymoses on the lower legs. We see this following tonsillitis, or it may be a secondary complication of rheumatic fever. Henoch's purpura is associated with abdominal pain and blood in the stools. In these types of cases of simple purpura we have to be careful in making a diagnosis or prognosis because they recover, are perfectly simple and have no changes in the blood. The blood platelets, clotting time and so forth are normal. But with the type of picture presented by this case, with no blood platelets, prolonged bleeding time and no clot retraction, we have to give an altogether different type of prognosis.

There are two types of this condition. This girl went for a period of six months with the continuous record of a process that had become more or less chronic, but from the point of view of many cases is still acute, because we see patients go year after year with intermittent attacks of bleeding. It stops for a while and—no one knows what precipitates it—bleeding starts again. One of the commonest types of this condition we see in women is the menstrual type, in which there is very little evidence of bleeding except profuse menstrual flowing for ten days or two weeks at a time. These patients may have been often curetted without relief. If a diagnosis of purpura hemorrhagica is not made no benefit can be expected from any of the procedures that are instituted. It is not an uncommon condition. Then there is a peculiar borderline state in which there is a good deal of excess menstrual bleeding associated with black and blue spots that occur very frequently spontaneously, with the history often of nosebleed or bleeding about the teeth, with a perfectly negative physical examination, with normal blood, normal coagulation time and bleeding time. This diagnosis is very difficult sometimes to differentiate clinically. One cannot be sure without doing the actual blood examination.

I do not see any other thing that this patient could have had except purpura hemorrhagica. We see this condition of purpura in acute aplastic anemia, bleeding from the mucous membranes and into the skin, and a blood picture that shows complete aplasia. However, she had a high red cell count, indicating that red cell production is normal, and her white cell formation is also normal. The platelets alone are insufficient, presumably because of destruction. In acute aplastic anemia all the functions of the bone marrow are reduced and we have severe anemia, leukopenia, very marked reduction in platelets and a clinical course shorter than this. None of the patients live longer than six months; in most cases they live not more than three. It may not be possible to differentiate acute aplastic anemia from acute aleukemic leukemia except from an age standpoint, since the latter does not occur late in life.

Splenectomy is the treatment of choice, although radiation over the spleen may cause temporary cessation of bleeding.

I mention these blood diseases to show you that you have to be familiar with blood pictures

in order to be sure of the problem you are dealing with in cases of this kind. Here the duration of six months rules out both acute aplastic anemia and acute aleukemic leukemia. We have no evidence for industrial toxins like benzol to interfere with the diagnosis.

Dr. George W. Holmes: It might have been well to ask the Roentgenological Department whether she ought to have treatment or not, as long as the question of treatment was raised. We have pretty good evidence that these bleeding cases can be temporarily relieved by radiation over the spleen. We get a decrease in coagulation time and increase in platelets, but as you said it is not permanent.

The films show that on the right the dullness of the diaphragm is obliterated. The shadow does rise along the axillary border and is of the density we expect to find in fluid. It is perfectly possible for consolidation to be hidden by such a shadow of fluid, and there might be consolidation on the left behind that high domed diaphragm. There is a good deal of lung hidden from us. The heart is completely hidden by shadows in the chest. The question might be raised as to whether all this could be a pneumonic process and no fluid. I rather think there is some fluid there to produce a shadow as dense as that and in that position.

Dr. Bock: I think it is very difficult to decide what is going on in the lung. One would expect terminal bronchopneumonia, and that condition is not very often if ever associated with fluid in the chest.

The most likely diagnosis is purpura hemorrhagica. She presumably died of widespread peritonitis. Just what the underlying condition in the lung is I hesitate to say. I have never seen bronchopneumonia with that amount of fluid, and I must say lobar pneumonia complicating such a picture as this is distinctly unusual.

A Student: Do you use the tourniquet test in purpura hemorrhagica?

Dr. Bock: Yes, the tourniquet test is possible in this type of purpura, but not in any other type as a rule. You can get it if you keep the tourniquet on for ten minutes.

A Student: What is the technic? Do you put it on over the diastolic pressure?

Dr. Bock: If you put it on just above the diastolic pressure do not leave it on more than four minutes. It is quite possible in the tourniquet test that almost any patient would have purpura. We do not know the cause of purpura in any of these cases. In Henoch's purpura something is wrong presumably with the capillary vessels. In purpura hemorrhagica the chief characteristic is the absence of blood platelets. There are a great many possible causes for disappearance of the platelets from the peripheral blood.

PRE-OPERATIVE DIAGNOSIS

Purpura hemorrhagica.

OPERATION

Gas and ether. The abdomen was opened through a left rectus incision. There was a great deal of oozing and bleeding on going through the abdominal wall. There were only a few fine adhesions holding the spleen in the left upper quadrant. After these were freed the spleen was delivered into the wound, the pedicle clamped between six half lengths, the proximal four being left on and tied with two separate ties of number 2 continuous catgut. Immediately after the spleen was removed there seemed to be marked decrease in the amount of oozing. The spleen was approximately three times normal size.

PATHOLOGIC REPORT

The specimen consists of a splenic tumor measuring 4 by 9 by 13.5 centimeters and weighing 196 grams.

The histologic appearances are consistent with thrombopenic purpura.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Purpura hemorrhagica.

DR. A. V. BOCK'S DIAGNOSES

Purpura hemorrhagica.
General peritonitis.
Pulmonary disease.

ANATOMIC DIAGNOSES

(Purpura hemorrhagica.)
General peritonitis, streptococcus hemolyticus.
Massive collapse of the lower lobe of the right lung.

Pathologic Discussion

BY TRACY B. MALLORY, M.D.

I think the autopsy adds very little. We cannot confirm the diagnosis of purpura hemorrhagica because there are no anatomic findings of the disease. She died of streptococcic peritonitis. The thoracic condition was collapse of the right lower lobe with no fluid or consolidation,—massive collapse. The diaphragm was extremely high on that side, much higher on the right than on the left.

Dr. Holmes: We never make the diagnosis of collapse without displacement of the heart. This patient had no apparent displacement of the heart.

CASE 16102

SEVERE EPIGASTRIC PAIN WITH BRIGHT BLOOD IN THE STOOLS

Surgical Department

A man of seventy was sent from the Out-Patient Department to the wards on January 21 complaining of pain in the epigastrium, consti-

pation and blood by rectum of two months' duration.

He thought that he had lost thirty pounds during the past four months. For three months his stools had been blackish or chocolate colored. Two months before admission his bowels, which had previously been regular, rapidly became constipated. At the same time he began to have dull non-radiating pain in the epigastrium, continuous but varying considerably in intensity and relieved only partially by belching of gas and defecation. Seven weeks before admission he noticed for the first time some bright red blood in his stool, and since that time he had seen it frequently. It was usually preceded by a sensation and a desire to have a movement, and occurred several times a day. He was ravenously hungry all the time. He felt weak and nervous and sweat on slight exertion. During the past month constipation and belching of gas had markedly increased, so that he had to take two or three doses of castor oil to obtain purgation. Three weeks before admission he had a sharp attack of epigastric pain about an hour after breakfast, felt nauseated and vomited a little food.

The family history is not significant.

He had always been a healthy man. For the past ten years he had urinated two or three times at night.

Clinical examination showed a man with some evidence of loss of weight. Apex impulse and percussion measurements of the heart not recorded. Heart possibly enlarged downward, not outward. Rhythm regular, with occasional extrasystoles. Artery walls palpable and tortuous. Blood pressure 135/85 to 110/85 the day before death. Occasional high-pitched râles with a few moist crackles at the left base. Abdomen normal except for a few gurgles of peristalsis heard over the cecal area. Rectal examination negative. Extremities, pupils and reflexes normal.

Before operation urine not remarkable, hemoglobin 75 per cent, reds 4,950,000, non-protein nitrogen 28, temperature 98° to 100.1°, pulse and respirations normal.

X-ray examination with a barium enema. The colon filled without delay. The sigmoid was markedly redundant, one loop extending up into the right side of the abdomen overlying the cecum and the ascending colon. The entire colon was somewhat atonic. No irregularities or filling defects could be demonstrated.

January 26 proctoscopy was done. The sigmoidoscope was passed 18 centimeters, but could not be passed beyond that point. The mucous membrane was normal. Throughout the portion examined small blotches of old blood were seen which increased in amount and became more bright at the highest point to which the instrument could be passed.

During his hospital study the patient had several severe attacks of upper abdominal pain lasting fifteen to twenty minutes without obvious physical findings.

January 27 operation was done.

Clinical Discussion

BY LELAND S. MC KITTRICK, M.D.

A patient of seventy who comes to the hospital complaining of increasing constipation, blood by rectum, and abdominal discomfort has malignant disease of the gastro-intestinal tract until it is proved otherwise. The history is going to prove of tremendous importance in arriving at the focus of disease or in excluding its presence. As given it is very difficult to arrive at a satisfactory interpretation. The passage of dark blood by rectum followed by a change in bowel habit and later by a feeling of lower abdominal discomfort accompanied by a desire to go to stool, and then with the passage of a small amount of bright blood is so characteristic of carcinoma of the lower part of the large bowel that one would almost be inclined on this history alone to operate unless some other very good cause for the bleeding was found.

How explain on this basis his attacks of upper abdominal pain? It is definite that the pain is upper abdominal as it has been demonstrated by attacks on the ward. In fact it is these attacks of epigastric pain which apparently precipitated his coming to the hospital. There is insufficient detail in his history from which to interpret these attacks very satisfactorily. The severity and apparent irregularity of the pain suggests gall stones very much more than it does a lesion of the stomach or duodenum. It is possible however that these attacks of upper abdominal pain might be due to a partial obstruction of the small bowel. It would be helpful could we know whether these pains were steady or intermittent. The latter, of course, would be in favor of obstruction, the former of gall stone colic.

The physical examination is of little help. He is apparently a man in reasonably good condition for his age. The presence of gurgles over his cecal area does not seem to be abnormal enough to be of real consequence. It is not surprising from the story that nothing can be felt by rectum.

Barium enema ought to throw some light on diagnosis. At this point it is worth while to call attention to the fact that in starting his X-ray studies a barium enema was given prior to barium by mouth because of the possibility of a partial obstruction of the large bowel. Barium by mouth in an obstructing lesion of the large bowel is an exceedingly dangerous procedure. I have not only seen it change a partial to a complete obstruction, but I have also seen it do untold damage following a resection and anastomosis because of the presence of the barium above the line of anastomosis and consequent injury to the suture line in an effort to expel it. The barium enema, you will note, is negative. Negative X-ray studies of the large bowel, however.

do not exclude malignant disease. One of the most difficult places of the large bowel to examine properly by X-ray is the rectosigmoid region. One should never be influenced against the diagnosis of malignant disease of the colon solely on the basis of negative X-ray findings.

Proctoscopy properly done and interpreted is of much more value in malignancy of the lower bowel than is X-ray, and in this instance is sufficiently definite to warrant a diagnosis. Why the sigmoidoscope could not be passed more than 18 centimeters I do not know. There are many factors which influence the passage of this instrument, and the mere fact that it could not be passed above that point is not evidence of an obstruction within the bowel. The fact, however, that the mucous membrane was normal (excluding an ulcerative colitis as the cause of bleeding) and the fact that there was definite evidence of old blood present as high as the proctoscope was passed—the blood increasing in amount and becoming more bright the higher the instrument went—means that there is a lesion within the large bowel which has ulcerated. Therefore if one coördinates the findings of proctoscopic examination with the history excluding the attacks of upper abdominal pain, one has all the evidence upon which to make the diagnosis of carcinoma of the rectosigmoid.

The only way that I can see in which to associate the attacks of upper abdominal pain with this diagnosis would be to assume that a loop of small bowel was adherent to the growth, giving a partial intestinal obstruction. Inasmuch as it is preferable to assume one condition rather than separate entities I should be inclined to offer this diagnosis rather than a separate diagnosis of cholelithiasis.

PRE-OPERATIVE DIAGNOSIS

Carcinoma of the rectosigmoid.
Small intestinal obstruction.

OPERATION

Spinal novocain. Left lower abdominal paramedian incision. There was a growth in the sigmoid and about the pelvic brim which did not completely encircle the bowel. The sigmoid above this was adherent to the cecum over a large area. The ileocecal region was not seen. There was no apparent obstruction.

Hasty exploration revealed no cause for the patient's upper abdominal pain. The only possibility for removal of the growth was a direct attack without further exploration and without any attempt to free the sigmoid from the right side of the abdomen. There was just enough sigmoid below this point to bring out a colostomy after turning the bowel out. The bowel was cut off just above the peritoneal floor, thoroughly cauterized and inverted, though not entirely satisfactorily. The peritoneal flaps were closed. The sigmoid was brought out as a permanent colostomy and the wound closed around this.

PATHOLOGIC REPORT

Adenocarcinoma of the sigmoid colon.

FURTHER DISCUSSION

The operative findings were a great disappointment. This man came to the hospital complaining most severely of upper abdominal pain. Apparently no stones could be felt in the gall bladder, although this does not in any way exclude such a diagnosis. Moreover the mere fact that the sigmoid was adherent to the cecum in such a way that this was almost hidden from view makes further exploration a real undertaking, and in a man of his age would preclude removing the growth. The removal of the cancer was apparently considered of greater importance to the patient than further exploration, since in the judgment of the surgeon both could not be undertaken. The other alternative would have been to free the sigmoid from the cecum to determine if possible the cause of the attacks of epigastric pain and then be satisfied with a permanent colostomy with the realization that a simple permanent colostomy would give a man of seventy, one or two years of comfortable life.

FURTHER HISTORY

The condition at the end of the operation was poor but improved for the first twenty-four hours. The morning of January 28 the colostomy was opened and a catheter inserted. That night the patient had considerable distention and vomiting. The vomitus was not definitely fecal but very suggestive. He continued to have distention and vomiting until a nasal tube was put down on January 29. This gave relief. There was however drainage of dark greenish fluid. The morning of January 30 the tube was removed. The patient began to vomit again. That afternoon ten ounces of material was aspirated. The abdomen was markedly distended but not tender or painful. A colostomy enema gave a fair result. The apex pulse was 125, the radial 85. The night of January 31 he began to cough and hiccup. February 1 he was much improved. The colostomy was functioning well. The distention was less and there was no vomiting. It was thought he would recover if he could get the better of what was believed to be a probable bronchopneumonia. X-ray examination with a portable apparatus February 2 showed the diaphragm high and sharply domed on the right. There was apparently some respiratory motion present however. Both apices were less than normally radiant. There were more changes on the right than on the left. The dullness was of a mottled character. Some of the films were quite dense. The appearance of the lungs suggested a tuberculous infection at some time. The high position of the diaphragm was not explained by the process in the chest. There was nothing unusual in the shape of the heart shadow. The aorta was a little tortuous. Another examination February 4 showed no great

change in the appearance of the chest. The sharp doming of the diaphragm on the right was less marked. The mottled dullness at the apex persisted. February 6 there was no appreciable change.

February 5 and 6 he had three slight rectal hemorrhages. February 7 he showed marked edema and coarse râles. That afternoon there was a definite change for the worse, with a rise in the chart. February 9 he died.

Further Discussion

The fact that the patient's colostomy was functioning well four days after operation excludes general peritonitis as the cause of his vomiting and distention.

The development on January 31 of hiccup is a very serious omen. Hiccup following laparotomy usually means infection, and in this type of operation the most probable location would be the stump of the rectum, which was inverted. It is too late for a general peritonitis, however, and a small abscess in this region ought to drain out through the rectal stump. The development of what was taken to be a bronchopneumonia in addition to the probable sepsis at the stump of the rectum was undoubtedly more than a man of seventy who had been through a major operation could overcome.

Clinical Diagnoses (From Hospital Record)

Carcinoma of the sigmoid.
Pneumonia.
Auricular fibrillation.

Anatomic Diagnoses

1. *Primary disease.*

Carcinoma of the sigmoid, resected.

2. *Secondary or terminal lesions.*

Local peritonitis.
Cellulitis of the abdominal wall.
Bronchopneumonia, both lower lobes.
Cardiac hypertrophy.
Chronic cholecystitis.
Cholelithiasis,—stones in the gall bladder, two stones in the cystic duct, one in the common duct.

3. *Historical landmarks.*

Anomaly of the sigmoid.

Pathologic Discussion

BY TRACY B. MALLORY, M.D.

Post-mortem examination showed a partial intestinal obstruction caused by old fibrous adhesions in the region of the splenic flexure which produced a sharp kinking in the bowel at this point. Above it the intestines were dilated, below it collapsed. Gas could, however, be forced by the obstruction with moderate pressure on the distended upper segment.

A second possible cause for the upper abdominal pain was the finding of an old chronic cholecystitis with numerous stones in the gall bladder, two in the cystic duct and one in the common duct. From the anatomic findings I am unable to guess which was the more important.

There was considerable sepsis of the abdominal wall surrounding the colostomy, and a localized collection of pus in the peritoneal cavity just beneath it. The pulmonary complication was, as suspected, a pneumonia in the left lower lobe. There was moderate arteriosclerosis and slight cardiac hypertrophy.

The difficulties of the operation were at least in part explained by the unusual redundancy of the sigmoid. The descending colon passed downward to the pelvic brim in normal fashion, then turned upward across the abdomen to the hepatic flexure, reversed itself, and passed downward along the medial border of the cecum, to which it was partially adherent.

Note by Dr. Mc Kittrick

Even in obstruction at the splenic flexure the pain is lower abdominal, and this fact in addition to the finding of stones in the gall bladder and the common and cystic ducts unquestionably accounts for the upper abdominal pain.

ANSWER TO INQUIRIES

Dr. E. H. Schirmer of Chicago makes some inquiries in regard to nephrosis suggested by Case 16021, published January 9, 1930. The replies are given in part by Dr. Cabot, part by Dr. Chester M. Jones. The answer to question 5 is given by Dr. Jacob Lerman. We publish these questions and answers for the benefit of other readers who may be interested in this disputed subject.

Question 1. This case is essentially a nephritis, with a superimposed nephrosis. However, there is a statement after her second entry that the urine showed sugar at all of three examinations, acetone and diacetic acid once. . . . I should much appreciate your opinion regarding these findings, for the presence of sugar, etc. in such a case would certainly complicate the diet and other treatment if it must be taken into consideration at all.

There is no quantitative report on the sugar in the urine. It could hardly be diabetes, since the blood sugar was only 34 milligrams. The acetone and diacetic acid were found near death, after the patient had been vomiting. There is no real evidence of diabetes.

Question 2. What is the Epstein high protein diet?

It is a diet of 2,000 calories, 180 grams protein, 30 grams fat, 250 grams carbohydrate. A sample diet is given in the article on acute tubular nephritis (lipoid nephrosis) by Channing Frothingham in Nelson's Loose-leaf Living

Medicine, IV: 685. You may be interested in this whole article.

Question 3. Is there an accompanying hypothyroidism in nephrosis?

Probably not.

Question 4. And is that the reason for the response to thyroid treatment? Is it not essential to determine the basal metabolic rate before giving such treatment?

There frequently is a low metabolic rate, but that does not necessarily mean hypothyroidism. It is of course essential to control thyroid treatment by the level of the basal metabolic rate.

Question 5. Approximately what is the dosage?

An average beginning dose would be 1.5 grains Armour's dry preparation daily. This is three or four times as strong as Burroughs and Wellcome's preparation. Watch the basal metabolic rate and functional response to judge the increase. Increase at the rate of three-quarters of a grain daily to a maximum of three grains Armour.

Question 6. Is there any age of special liability?

Nephrosis usually occurs in children or young adults.

Question 7. Must the fluid intake be curtailed or at least watched during the treatment of nephrosis?

It should be maintained at a fairly constant average figure.

Question 8. Is there not a retention of fluids if there is edema, which is supposed to be one of the signs of nephrosis?

"Since fluid restriction seems to exert no permanent effect upon the edema, it seems reasonable to leave the daily intake of fluids at about 1,500 c.c." (Frothingham.)

Question 9. According to the standards used in your hospital, what is the normal range of cholesterol in the blood? and is not an increase or a lack of increase of prognostic value?

About 140-160 mgm. per 100 c.c. The cholesterin very frequently is high in nephrosis; not always.

Question 10. If the treatment is the opposite of the treatment for nephritis, then intravenous injections of magnesium sulphate and hot packs would not be indicated. Is that correct?

Yes. "In those cases where the etiology is unknown, no steps can be taken to eliminate the source of the toxic substance." (Frothingham.)

Question 11. Do patients suffering from a pure nephrosis go into coma and develop "uremia"?

They may, or may die from intercurrent infection.

Question 12. Does nephrosis occur during pregnancy? and does eclampsia occur if the disease is neglected?

So far as we know nephrosis does not occur during pregnancy or have eclampsia as a sequel.

There is a good deal of discussion as to the existence of nephrosis as a disease entity, some people saying it is a tubular nephritis comparable to that of mercurial poisoning. Causes assigned by certain writers are pyogenic infections and syphilis.

Question 13. Is either of these two pathologic conditions, nephritis and nephrosis, ever present alone, or are they always associated to a certain degree, making it necessary to treat the predominating one?

We see very few patients who have pure nephrosis. It is usually accompanied by findings which are commonly associated with chronic nephritis. Occasionally it occurs as a pure disease entity.

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THE HEALTH MOTIF IN ADVERTISING AGAIN

IT is encouraging to those of us who have deprecated the health propaganda with which the makers of this, that and the other thing have bombarded the public, to note that the United States Department of Agriculture is cognizant of the situation and has issued a statement to the press. This statement has been reproduced for the information of publishers by the National Better Business Bureau of New York.

"The term 'health giving'," according to Dr. Paul B. Dunbar, assistant chief of the Food and Drug Administration of the U. S. Department of Agriculture, speaking before a joint session of the National Canners' Association and the National Wholesale Grocers' Association, "is the most overworked and most loosely applied expression in advertising."

His idea, and it seems to us a sound one, is that the selling appeal of products should be based on their good quality, character and honest food value, and that from the label should be eliminated anything smacking of health claims. The public, he goes on to say, is health conscious and has an obsession on the question of health, health foods, health fads and health exercise. This obsession, we all know, is in large part due to the nature of the advertisements which constantly appear in all sorts of current literature.

The Food and Drug Administration is interested in preventing the making of false claims which would take advantage of the food buyer's lack of understanding of the science of nutrition, and Dr. Dunbar calls attention to the fact that label representations regarding health-giving properties or vitamin content which are not borne out by fact can only be regarded as in contravention of the law, the Supreme Court of the United States having held that statements which may deceive through indirection or ambiguity are within the ban of the statute.

CANCER CURES

THE public has well deserved confidence in the statements of members of the medical profession. It also has piteous hope that some universal remedy may be found for cancer. Premature publication of alleged cancer cures, particularly in the lay press, is a regrettable occurrence, reflecting on the whole profession and working great injustice to those suffering from the disease, their families and friends.

There is little excuse for this ill-advised publicity. The writer has met many newspaper editors and he has yet to see one who, when told a given report was as yet unfounded and would work injustice to his readers if published, has insisted on printing it. When insulin was on clinical trial, every city editor in Boston knew a probable remedy for diabetes was being tested in the local hospitals, yet nothing appeared in their papers relative to this great discovery until its value was fully established.

Unfortunate premature announcements are very frequently due to overenthusiasm of investigators or their colleagues. The latest mischance of this type is the report in the daily press of the work of two San Francisco physicians, claiming startling results in the treatment of cancer with a preparation of adrenal cortex. Everyone hopes that this is correct, but the evidence submitted (some days after the reports in the daily papers) in their letter[1] to the editor of the JOURNAL of the American Medical Association is dishearteningly slight and shows little trace of the rigid control and critical analysis such an important subject deserves.

Our own skirts are none too clean, as witness the unfortunate publicity accorded a demonstration of the treatment of transplantable tumors during the Physiological Congress last summer.

Fortunately such occurrences are sufficiently rare as to attract considerable attention. However, there should be no occasion for criticism.

If the medical profession is to retain the confidence of the public, its own self-respect, and

its ability to attack with a clear conscience the blurbs of patent medicine vendors and quacks, it must control the poor judgment and undue enthusiasm of its own members.

REFERENCE

1 Journal of the American Medical Association. 94:359, 1930.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

HARDENBERGH, JOHN G. V.M.D. Pennsylvania 1916. Director of Laboratories, Walker-Gordon Laboratory Company, Plainsboro, New Jersey. His subject is: "Agglutination Tests for the Diagnosis of B. Abortus Infection." Page 465. Address: Plainsboro, New Jersey.

TAYLOR, GRANTLEY W. A.B., M.D. Harvard 1922. F.A.C.S. Assistant in Surgery, Collis P. Huntington Memorial Hospital, Massachusetts General Hospital and Harvard Medical School. Assistant Visiting Surgeon, Pondville Hospital. Visiting Surgeon, House of the Good Samaritan. Address: 264 Beacon Street, Boston. Associated with him is:

ROGERS, HORATIO. A.B., M.D. Harvard 1923. Assistant in Surgery, Collis P. Huntington Memorial Hospital 1927-1928. Now Assistant in Surgery, Massachusetts General Hospital and Harvard Medical School. Assistant Visiting Surgeon, Pondville Hospital. Junior Assistant Surgeon, Faulkner Hospital. Address: 264 Beacon Street, Boston. Their subject is: "Impressions of Surgical Endothermy." Page 467.

SEELYE, WALTER C. B.A., M.D. Harvard 1900. F.A.C.S. Surgeon and Chief of Surgical Services, Memorial Hospital, Worcester. Address: 390 Main Street, Worcester, Mass. Associated with him is:

ADAMS, DONALD S. M.D. University of Virginia 1917. F.A.C.S. Junior Attending Surgeon, Memorial Hospital, Worcester. Address: 36 Pleasant Street, Worcester, Mass. Their subject is: "A Study of One Hundred and Five Gastroenterostomies from the Surgical Services of the Memorial Hospital, Worcester, Mass." Page 469.

HOLMES, ARTHUR D. B.S., Ph.D. Johns Hopkins University, 1911. Teaching Record Laboratory Assistant, Dartmouth College, 1905-1906. Instructor in Chemistry in University of Maine 1906-1907, etc. Research Chemist, U. S. Dept. Agriculture, Dec. 1911-1918. Director of Research, The E. L. Patch Company, Stoneham, which is his present address. Associated with him is:

ACKERMAN, HANNA L. Graduate, Blodgett Memorial Hospital School of Nursing and University of Michigan in Public Health. Superintendent of Ackerman Hospital, Dowagiac, Michigan 9 years. Address: 901 Broadway, Niles, Michigan. Their subject is: "The Value of Cod Liver Oil for Underpar Children of School Age." Page 470.

GURALNICK, R. M.D. Tufts Medical School 1915. Assistant Physician, Pediatric Department, Boston Dispensary and Pediatric Department, Beth Israel Hospital. His subject is: "Two Cases of Acrodynia." Page 476. Address: 44 Saratoga Street, East Boston, Mass.

DONOGHUE, FRANCIS D. M.D. Harvard 1894. Medical Adviser, Massachusetts Department of Industrial Accidents 1914-1930. His subject is: "Protect the Doctors' Rights." Page 477. Address: 864 Beacon Street, Boston.

MONKS, GEORGE H. A.B., M.D. Harvard 1880. F.A.C.S. His subject is: "Vincent Yardley Bowditch, M.D." Page 480. Address: 51 Commonwealth Avenue, Boston.

AUSTIN, ARTHUR E. A.B., A.M., M.D. Harvard 1887. Former Professor of Biochemistry, University of Virginia and University of Texas. Assistant Professor of Clinical Medicine, Tufts College. Former Major, Medical Corps United States Army. His subject is: "Progress in Gastroenterology for 1929." Page 483. Address: 270 Commonwealth Avenue, Boston.

THE DOCTOR'S SADDLE BAG

FOR PEOPLE OF MODERATE MEANS

WE have recently witnessed the opening of a new hospital for people of moderate means, sponsored by and a part of the Massachusetts General Hospital, and we hasten to doff our caps to any institution or any philanthropist who realizes the pressure which exists between the upper and the nether mill-stones, and seeks to reduce it. The donors of such an enterprise are doing much to lessen the high cost of medical care for those who cannot stand that cost; the hospital, in its administration of this trust can make it serve the purpose for which it was intended or can nullify it; the staff to whom its doors are open and for whom its facilities are available, must also do its share.

The staff, in return for the privilege of having such a hospital into which to send patients of this class, must reduce its fees to a point, more or less arbitrarily established, which the traffic can bear. In return for this reduction in fees it expects, and has a right to expect, that the care of these patients shall be made as easy, as little time-consuming, as is consistent with the best medical attention.

The patients for whom this trust was established must bear in mind that it was designed wholly for their advantage, in order to give them at a minimum rate the best care and the best accommodations possible. It is intended to enable them to pay their own way, to keep out of the charity ward and also out of the poor-house; to maintain their self-respect and at the same time retain their economic independence.

The donor, the hospital and the staff are contributing towards this ideal of service. The patient is asked only to co-öperate in making a success of the venture by accepting the service given—and it will be good—as the best which can be afforded; by refraining from unreasonable demands and by helping to give the hospital a good name in the community.

The real burden of making a success of the venture rests upon the hospital administration, and there is every evidence that this administration is keenly alive to its responsibilities. One of the greatest tasks will be to classify the patients awaiting admission and allocate to them the accommodations suitable to their financial status. Those who, through false pride, are seeking admission to a hospital which is above their economic capacities must gently but firmly be turned towards the open wards; those who are trying to exploit the hospital and their physicians by entering its walls when their incomes would permit purely private service of a higher type must find its doors closed to them. In addition, the hospital must remember that most of those patients will be gentle folk, even if not wealthy, and they are entitled to a consideration in treatment which befits their sensibilities.

Social service, in this hospital, will find a large place for its activities, for nowhere is hospital social service more necessary than in the great middle class—the class of people who can subsist with self-respect and dignity when a fair wind blows behind but who cannot master the adverse conditions which the unusual expenses of illness and hospitalization bring. These are the people for whom charity is not available but to whom a helping hand must be offered when the question arises of a readjustment to life under changed circumstances. We have always appreciated the necessity of social service in adjusting the affairs of the poor patients who come under our care; we must learn to appreciate that it is often an economic necessity with people of moderate means.

The task of defining moderate means raises in itself a complex question. We are apt to think first of the underpaid intellectual class, and use them as our standard—the professorial group, for instance—people with culture and refinement, with an appreciation of the fundamentally fine things of life, and with definite standards of living to maintain. To this estimable nucleus must also be added the vast army of small shop keepers, salespersons, the higher types of clerks, bookkeepers, many professional classes and so on. This we think of as the large, substantial group of people of moderate means and yet with respectable standards of living.

The war, however, served in great measure to upset this classification. Many of the respectable, white collar incomes are no longer even moderate, although standards of living have not been lowered and the cost of maintaining them has increased. The incomes of many of the artisan group have notably increased and the tastes of these groups have not necessarily improved so far as the fundamental standards of living are concerned; excepting, of course, such tastes as those for expensive radios, automobiles and the like. This puts many of the manually working groups in a better economic condition to weather hospital expenses than are the professionals and small householders. Their incomes have increased more rapidly than have their fundamental scales of living.

We must not forget also the varying legitimate demands which may be made on a given income. The bachelor with $4,000 a year is relatively well-to-do as compared with the head of a family with the same income and sons in college. The task of the administration of a hospital for people of moderate means, including its social service, is not an easy one, and among the most difficult of its tasks is the definition of moderate means. At any rate, we must admit that the attempt to administer such a hospital is, in familiar language, a noble experiment.

The Massachusetts Medical Society

SECTION OF OBSTETRICS AND GYNECOLOGY

Louis E. Phaneuf, M.D., *Chairman* — Alonzo K. Paine, M.D., *Secretary*

Frederick J. Lynch, M.D., *Clerk*

Will you please discuss uterine bleeding?

Uterine bleeding is a symptom and not a disease per se. It is met as a frequent symptom in obstetrics and gynecology.

Bleeding from the uterus may be divided into physiological and pathological. Again, the pathological may be divided into bleeding connected with pregnancy and bleeding connected with gynecological lesions. Uterine hemorrhages may be a manifestation of a benign or of a malignant condition.

PHYSIOLOGICAL UTERINE BLEEDING

Physiological uterine bleeding deals with menstruation which may be defined as a periodic discharge of blood from the uterus, accompanied by the shedding of portions of the epithelium of the body and the fundus as well as that lining the utricular glands near their orifices. The menstrual discharge, therefore, contains blood mixed with the glandular secretions and the desquamated surface epithelium of the endometrium. The internal secretion of the ovary produces the menstrual impulse; the uterus, in responding to this impulse, occasions the menstrual flow. The period of sexual activity, which begins with puberty and ends with the menopause, lasts from thirty to thirty-five years on the average. Normal menstruation, in the same woman, may vary with the full attainment of puberty, with the assumption of marital relations and after pregnancy.

PATHOLOGICAL UTERINE BLEEDING

Pathological uterine bleeding occurs in the form of a menorrhagia, a prolongation and an accentuation of the normal menstrual period; and a metrorrhagia, irregular bleeding between the periods. Obviously, the latter suggests more advanced pathology.

BLEEDING CONNECTED WITH PREGNANCY

1. Abortion and Miscarriage.
2. Ectopic Gestation.
3. Hydatidiform Mole.
4. Chorion-epithelioma.
5. Placenta Previa.
6. Ablatio Placentae.
7. Placentoma.

The diagnosis and treatment of these conditions have been discussed in previous columns. The main point to emphasize is early diagnosis and appropriate treatment before the blood loss is too great and before the patient's general condition assumes serious proportions. Blood transfusions form an important part of the treatment of these lesions.

BLEEDING NOT CONNECTED WITH PREGNANCY

A. From Benign Conditions:

1. Endocrinal hemorrhages.
2. Hypothyroidism.
3. Blood diseases.
4. Vascular hypertension.
5. Uterine fibroids.
6. Uterine adenomata.
7. Polypi, cervical and corporeal.
8. Uterine malpositions and lacerations of the cervix.
9. Subinvolution of the uterus and hyperplasia of the endometrium.
10. Uterine inversion.
11. Pelvic inflammation.
12. Benign tumors of the ovaries.
13. Functional bleeding.

The diagnosis and treatment of the above conditions may require the services of the endocrinologist, the internist, the pathologist and the gynecologist. While space does not permit to take up each condition in detail emphasis should be laid on the fact that malignant disease must be ruled out in making the diagnosis; this may require a biopsy from the cervix as well as a diagnostic curettage.

B. From Malignant Conditions:

1. Carcinoma of the cervix uteri.
2. Carcinoma of the corpus uteri.
3. Sarcoma of the uterus.
4. Malignant tumors of the ovary.

Uterine bleeding, which is a symptom of malignant conditions of the uterus and ovaries, demands complete and early investigation in order that cancer may be recognized in its incipient stage. Early recognition of genital cancer is one of the biggest factors in the treatment and prognosis. Opinions are still divided on the use of radium and x-rays on the one hand and of surgery on the other in the treatment of uterine cancer. Either method has some value and can show favorable results in the way of cures if the lesion is recognized and treated early. By careful investigation of all cases of uterine bleeding, we have, for the present at least, the only hope of reducing the mortality rate in genital cancer. The treatment of ovarian cancer is radical surgery; x-ray and radium are only considered in the advanced cases and the results are never very satisfactory. For this reason ovarian tumors should be removed as soon as diagnosed in order to safeguard the patient from malignant degeneration.

Questions of a similar nature to the above will be discussed in the JOURNAL each week. They may be addressed to the Clerk of the Committee in care of the JOURNAL and will be answered by members of the Committee of the Section of Obstetrics and Gynecology.

MASSACHUSETTS LEGISLATIVE NOTES

HOUSE BILL NO. 259 REFERRED BACK TO THE COMMITTEE ON PUBLIC HEALTH

The Vaccination bill of Dr. Woodward has met with an obstacle in that the point was raised in the House that the bill exceeded the provisions specified in the petition. This contention was sustained by the Speaker and the bill has been referred back to the Committee.

The following bills have been given leave to withdraw:

Senate 132—petition for legislation to provide for the re-registration of physicians.

Senate 133—petition for legislation relative to the recording of physicians' certificates by city or town clerks.

House 46—bill (accompanying 43, recommendations of the Commissioner of Public Health) relative to subsidies to cities and towns for pulmonary tuberculosis cases, has been referred to next annual session.

House 451—petition that hospitals be required in certain instances to furnish copies of records kept by them.

House 452—petition for legislation to prohibit the use of impure virus for purposes of vaccination.

House 567—petition for legislation to make vaccination non-compulsory.

House 824—petition for an amendment of the law relative to the school attendance of unvaccinated children.

MISCELLANY

TUBERCULOSIS ABSTRACTS

BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Nature's medicine chest contains no more useful or important remedy than rest. In the treatment of

tuberculosis, we use numerous devices to immobilize the lung itself, but still rely chiefly on general body rest. Complete rest, however, is not achieved merely by commanding the patient to be quiet or by putting him to bed. Tenseness of mind, nerves and muscles prevents most of us from resigning ourselves to a vegetable inactivity and so deriving the maximum benefit from rest. Edmund Jacobson, of the University of Chicago, has made a scientific study of rest, on the basis of which he has developed a technique of securing complete relaxation. The following excerpts are derived from his book, "Progressive Relaxation," published by the University of Chicago Press.

NEURO-MUSCULAR HYPERTENSION AND RELAXATION

Neuro-muscular hypertension is due to a reflex excitation or irritability. In disorders involving structural nerve lesions, such as hemiplegia and diplegia, this tenseness is easily discernible. Similar, but less obvious, symptoms of hypertension may be observed also in persons without nerve trauma and in those not ordinarily branded as "nervous, restless or irritable."

The symptoms of hypertension have their origin in a variety of conditions, including prolonged pain or distress, emotional disturbances, such as fright, loss, or bereavement, bacterial infections, trauma of all kinds, chronic nervous strains, and possibly congenital defects of the nervous system. The author distinguishes sharply between hypertension and neurasthenia (a fatigue phenomenon) and says that, like arterial hypertension, the term represents not a diagnosis but merely a systemic condition and does not deny possible underlying pathology.

OVERCOMING RESIDUAL TENSION

When an unpracticed person is instructed to relax, tests generally reveal a "residual tension" which appears to be a fine tonic contraction along with slight movements or reflexes. The respiration is slightly irregular, the pulse may be moderately increased (as compared with the pulse in complete relaxation), there are local reflex activities such as frowning, movement of the eyeballs, restless shiftings of head, limb or finger; the knee jerks can be easily elicited, and a sudden, unexpected noise causes the patient to start. Doing away with this residual tension, slight as it may be, is what is needed to derive the full benefits of relaxation. This is accomplished only as the result of practice. When relaxation is complete, the individual lies quietly with flaccid limbs, there is no trace of stiffness, no reflex swallowing, movement of the eyelids, nervous movements or tremor, while mental and emotional activity dwindles and disappears for brief periods. The condition is pleasant and restful. The sleep which often results is not a hypnoidal or trance state but a perfectly natural sleep.

TEACHING THE PATIENT TO RELAX

Learning to relax is a matter of nervous re-education. The patient is taught first how to identify and to localize tensions. Once he has cultivated a muscle-sense (joint and tendon sensations may be disregarded), he easily learns to "relax his tensions away." Practice begins with the patient lying comfortably on his back on a couch. He is told to contract steadily and slowly a single group of muscles, say the flexors of the forearm, while the upper arm rests limply on the couch. The physician's hand retards the movement slightly so as to intensify the sensation of muscular contraction. The patient observes the muscle "feel," though he does not concern himself with the anatomical details, nor should he palpate his own muscles or watch his own movements, this being the physician's function. As the patient acquires skill, the physician's passive resistance may be omitted. When the experience of localizing a contraction has become thoroughly familiar, the patient becomes aware of what he is *not to do;* he learns to "let go" and discovers that relaxation is simply the negative state of contraction. Practice with a given set of muscles eventually enables him to relax them without effort. Thus, one set of muscles after another is trained, not omitting the facial muscles and the eyes, until the patient learns to relax the entire body at will.

SUGGESTION NOT A FACTOR

At no time is the instruction given to stop thinking or to make the mind a blank. The fact that one may go to sleep while practicing muscular relaxation harmonizes with the laboratory evidence that mental and emotional activity always involves a motor element and that by decreasing this motor element such activity is apparently diminished. The author insists emphatically that the method of progressive relaxation is not a form of "suggestion" or hypnosis; in fact, in his training of patients, he scrupulously avoids suggesting effects that may follow and simply directs his patient what to do in the same manner as when prescribing diet or exercise. Voluntary relaxation of an undesired mental activity differs in mechanism from so-called "suppression" or "repression," which are commonly attended with effort, which is the reverse of relaxation. In progressive relaxation, the subject exercises the "will" to relax, and success is dependent on habit formation.

EMOTIONAL ACTIVITY INVOLVES MOTOR ELEMENT

Mental and emotional activity always involves a motor element. On the basis of his experiments with intelligent subjects, the author concludes that a tenseness of muscles of the ocular region accompanies visual imagery. With complete ocular relaxation, the image disappears. Auditory imagery is similarly associated with a sense of tenseness, felt perhaps in the auditory apparatus but characteristically in the ocular muscles. When the subject succeeds in maintaining the imageless state for a relatively prolonged time, natural sleep ensues. "Nervous individuals tend to rehearse their griefs, difficulties and problems, considering incessantly and perhaps incoördinately what to do about them; and this emotional reflection evidently is a fountainhead of nervous hypertension, which relaxation mechanically shuts off."

THERAPEUTIC APPLICATION

Dr. Jacobson believes this method of obtaining rest has possibilities of widespread therapeutic application. In some disorders, it may be used as the principal or only method of treatment, while in others it may be regarded as an adjunct to other medical or surgical treatment. An analysis of the 81 cases treated under his direction by relaxation alone reveals that most of them were conditions dependent upon or related to neuroses or psychoses. The list of pathologic conditions treated includes nervous hypertension, chronic insomnia, convulsive tic, esophageal spasm, Graves' disease, mucous colitis, spastic paresis, stuttering, stammering, and others. In this series of 81 cases, he reports objective results in terms of improvement as follows: slight—13; marked—28; very marked—36; doubtful—4. Equally good are the results of cases in which supplementary dietetic or surgical treatment was indicated and used.

IS THE METHOD APPLICABLE TO TUBERCULOSIS?

Little mention is made in the book of tuberculosis, perhaps for the reason that the author's research has been concerned primarily with the treatment of conditions more definitely dependent upon, or associated with, neuro-muscular tensions. Since, however, rest is the pillar on which the treatment of this disease depends, it would seem worth while to investigate the possibilities of this method for tuberculous patients. How common it is to see patients "taking the cure" harassed by worries of home, depressed by prospects of the future, fidgety for want of something to occupy the mind and hands, restless from long waiting, and impatient to have done with the tedium of institutional regimen. Merely "guarding the bed," as the Germans say, is one way of enforcing a degree of rest, but it is not of the kind from which maximum benefit is derived.

The patient is taught to localize muscular contraction; in this case, the *orbicularis oculi*.
—Courtesy *U. of C. Press.*

Relaxation with open eyelids gives the patient a particularly vacuous appearance.
—Courtesy *U. of C. Press.*

THE INTERNATIONAL MEDICAL CLUB

This organization was started by a group of foreign medical graduates residing and practicing in the State of New York, with the active participation of prominent American Medical graduates interested in the promotion of International Medical Relationship. The organization of the International Medical Club was justified by the sole fact that in New York State alone there are over 4000 foreign born physicians and thousands of medical graduates from foreign universities.

The foreign language medical societies in New York, of which there are many, are as follows: Two Italian (Manhattan and Brooklyn) a Spanish, German, Russian, Hungarian, Greek, Celtic and others of less importance. Due to the fact that these foreign language medical societies were functioning independently with no contact between themselves and the American Medical organization, the International Medical Club, had, as one of its objects, the establishment of relationship between these foreign and American medical organizations.

New York City, as a port of entry to the United States, is ideally located to facilitate the numerous other objects of the International Medical Club. During the five years of its existence this organization has met with distinct success in the fulfillment of its numerous objects.

ITS OBJECTS

1. The promotion of social and scientific relations between foreign and American graduates residing or practising in the United States of America, to the end that a better mutual understanding may ensue between them.

2. The establishment of social and scientific contacts between all recognized foreign language medical societies organized in the United States of America.

3. The promotion of friendly and scientific relations between this Society and other recognized organizations instituted in foreign countries with similar objects.

4. The extension to members of this Society of the privilege of being introduced officially to corresponding medical groups in foreign countries; thus establishing personal contacts with prominent medical men and facilitating the pursuit of their postgraduate studies, medical visits and pleasure trips abroad.

5. The promotion of the objects sought by distinguished foreign medical visitors and also by members of corresponding medical groups established in foreign countries, while they are on this continent; extending to these visitors in a spirit of reciprocity, all the privileges granted by Section 4 to members of this Society during their visits abroad.

Further information may be obtained on application to Dr. Richard Kovacs, Secretary, 223 East 68th Street, New York City.

A RABID DOG IN WALTHAM

Inspector of Animals Rudolph A. Sibley of Waltham reports that a dog which had bitten several persons was found to be afflicted with rabies according to the report of the examination of the dog's head.

Several dogs are reported to have been bitten.

COMPARISON OF DISEASE INCIDENCE IN CONNECTICUT
WITH 1929 AND SEVEN YEAR AVERAGE
MONTH ENDING FEBRUARY 8, 1930

DISEASES	1930					1929			
	Wk. ending Jan. 18	Wk. ending Jan. 25	Wk. ending Feb. 1	Wk. ending Feb. 8	Average cases reported for week corresponding to February 8 for past seven years	Wk. ending Jan. 19	Wk. ending Jan. 26	Wk. ending Feb. 2	Wk. ending Feb. 9
Cerebrospinal Men.	-	-	2	2	2	2	2	3	2
Chickenpox	178	191	117	152	104	75	114	74	89
Conjunctivitis Inf.	-	1	-	-	-	-	-	-	-
Diphtheria	22	32	25	24	45	34	35	28	27
Encephalitis Epid.	1	-	-	1	2	-	-	-	1
German Measles	42	34	21	32	15	21	43	35	55
Influenza	9	21	8	9	145	3559	3119	684	656
Measles	44	23	25	24	286	283	324	253	374
Mumps	26	62	57	26	58	134	82	83	77
Pneumonia (Bronoho)*	35	25	41	47	47	109	129	110	81
Pneumonia (Lobar)	36	37	47	54	58	118	130	119	96
Poliomyelitis	-	-	-	-	-	1	-	-	1
Scarlet Fever	84	138	97	135	123	56	65	37	43
Septic Sore Throat	2	-	1	1	1	1	1	3	3
Smallpox	-	-	-	-	2	-	-	-	-
Tetanus	-	-	-	-	-	1	-	-	-
Trichinosis	-	-	-	-	-	-	9	-	-
Tuberculosis (Pul.)	24	36	23	25	30	27	37	22	16
Tuberculosis (O.F.)	4	2	3	2	2	1	2	1	2
Typhoid Fever	1	-	-	-	4	-	-	-	-
Undulant Fever**	-	1	2	-	-	-	-	-	-
Whooping Cough	46	100	42	65	69	30	36	28	17
Gonorrhoea	67	34	19	28	21	20	22	38	46
Syphilis	49	38	33	19	23	34	39	43	37

* Made reportable January 1, 1925
** Made reportable July 1, 1928

REMARKS: No cases of Asiatic cholera, Glanders, plague, rabies in humans and Yellow fever during the past seven years.

RESOLUTIONS ADOPTED BY THE ESSEX NORTH DISTRICT MEDICAL SOCIETY

Whereas, the publication in the daily press of physicians' names in connection with their cases, operations, and professional work, or the suffering of such publication to be made, is contrary to the Ethics of the American Medical Association, and the Massachusetts Medical Society, and is opposed to the best interests of honorable medicine and the public good, be it

Resolved, that the Essex North District Medical Society in session assembled, and the Medical profession in sympathy with it, declare that such publication is against their wishes;

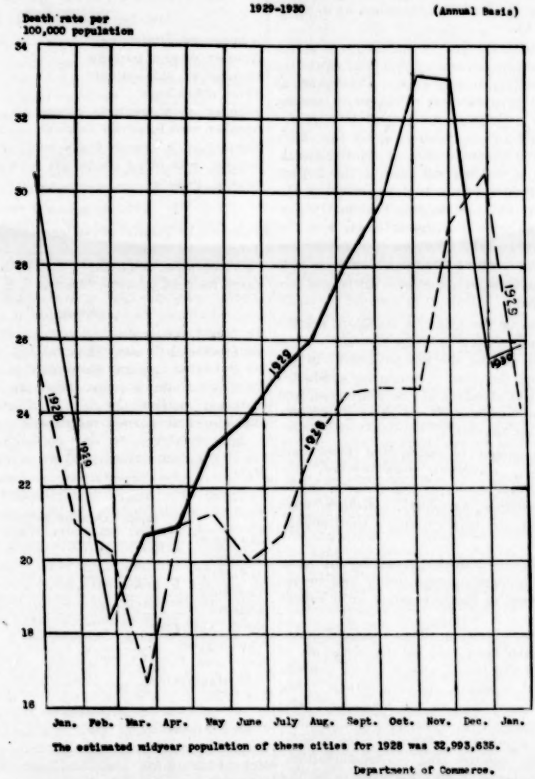
Resolved, that it is the duty of each physician to prevent the appearance of his name in such connection;

Resolved, that the publishers of the press are respectfully requested to omit such mention entirely.

Resolved, that a copy of these Resolutions be sent to each physician in the district, to the secretaries of the Massachusetts state and the district societies, to the publishers of papers circulated in this district, and to the American Medical Association, for publication.

J. Forrest Burnham, M.D., *Secretary*.
567 Haverhill Street, Lawrence, Mass.
Feb. 26, 1930.

Death Rates from Automobile Accidents based on deaths reported from 78 Large Cities for Four-Week Periods: 1929 and 1930



The estimated midyear population of these cities for 1928 was 32,993,635.

Department of Commerce.

LAWRENCE CANCER CLINIC

Following the action of the Massachusetts Legislature, concerning the State Department of Public Health of Massachusetts, to attack the problem of cancer, in the State, and appropriating funds for the sume, the Commissioner of Public Health, George H. Bigelow, M.D., of Boston, invited the physicians of Lawrence and its vicinity to open and operate a State-aided cancer clinic.

An active joint committee of seven physicians, whose names appear below, was appointed by the Lawrence Medical Club and the medical Staff of the Lawrence General Hospital, to consider the proposition, and if favorable action was deemed advisable, to consummate the matter.

The committee, known as the Lawrence Cancer Committee, gave earnest thought to the subject. The management of the Lawrence General Hospital offered its full facilities and its co-öperation, without cost, including quarters, nurses and all necessary adjuncts. As a part of its labors, the committee visited two thriving clinics already in action, viz.: The Lowell Cancer Clinic, at the Lowell General Hospital, and the Lynn Cancer Clinic at Lynn Hospital. At both places the committee was received very kindly by the physicians in charge and on duty, and accorded every courtesy, and given the fullest information as to all the details of means and methods of operation.

As a result of its deliberations the Lawrence Cancer Clinic was opened on April 24, 1929 at the Lawrence General Hospital, number one Garden Street, Lawrence, Massachusetts, with an initial attendance

of 13 patients. The clinic is held on the first and third Tuesdays of every month at 10 A. M. Up to the present date the largest attendance at a single clinic has been 18.

The clinic is manned by the 38 members of the Staff of the Lawrence General Hospital with the addition, occasionally, of two Boston physicians, as consultants, who give especial attention to cancer. The Clinic has the part-time service of two trained social workers and an automobile. It has the active co-öperation of the Commissioner of Public Health, and three others of the Medical Staff of the Department, i.e., the Director of the Division of Adult Hygiene and two of his associates. The services of two lay members from the Department, and the efficient aid of the social worker on the staff of the commissioner have been of great assistance.

Full clinical and social records of all cases are kept at the Clinic.

At the inception of the Clinic, a complete printed story of the plans, aims, and limitations of the work was sent to each of the 225 physicians in the area, outlining the fact that it would be conducted on the strict ethical standard of the profession, and an invitation was extended to all these physicians to participate in its benefits.

The following named 15 cities and towns are served: Lawrence, Haverhill, Newburyport, Methuen, Andover, North Andover, Georgetown, Groveland, Boxford, Merrimac, Amesbury, Salisbury, West Newbury, Newbury and Rowley with a total population of 217,396.

Liaison with Boards of Health, social service agencies, and visiting nurses in these cities and towns, has been established in the interest of local cancer cases.

Up to the present writing three special Demonstration clinics have been held on the occasions of regular sessions of the Clinic with a cancer consultant from Boston present, and invitations have been sent to all physicians in the area—and good attendance has resulted. It is the rule of the Clinic to return, to the physicians referring cases, a written report of the findings and recommendations. This rule is also followed in all other cases when the patient will designate his family physician, and the patient is advised to report to him. The Clinic does no treating. Needy cases requiring operative work are recommended to the wards of the Lawrence General Hospital—or to the Pondville Hospital.

An efficient Lawrence Cancer Education Committee, of 21 lay persons, has given and is now giving very great assistance, by promulgating proper publicity, to the work of the Clinic.

Semi-monthly articles of public interest furnished by the Department of Public Health, consisting, in part, of stories of informative value, are distributed by the lay committee, and are published gratuitously by the 15 daily, Sunday and weekly newspapers of this area.

The following are statistics of the Clinic from its first year, this initial report covering the first 20 months, thus allowing future annual reports to coincide with calendar year.

APR. 24, 1928—DEC. 31, 1929

Number of clinics held	40
Number of new patients	192
Number of old patients	43
Total attendance	235
Number with operable cancer	47
Number with inoperable cancer	5
Number with precancerous conditions	32
Number with other conditions (non-cancerous)	85
Normal persons	23

ORIGIN

Referred by family physicians	54
Referred by friends	7
Came because of publicity	104
Came because of other sources	27

DISPOSAL

To family physician	102
To Lawrence General Hospital	42
To Pondville General Hospital	39
To General clinics (non-cancerous)	21
To other institutions	14
Discharged as normal individuals	17

SEX

Male	93
Female	142

HOME TOWN OF PATIENT

Lawrence	116
Methuen	25
Haverhill	14
Amesbury	14
Andover	10
North Andover	6
Newburyport	4
Groveland	1
New Hampshire	2

NATIVITY

United States	85
Canada	33
Ireland	16
England	14
Italy	10
Germany	10
Poland	9
Scotland	6
Russia	4
Belgium	2
Sweden	1
Austria	1
Portugal	1

ROY V. BAKETEL, M.D.,
CHARLES J. BURGESS, M.D.,
FRED'K D. MCALLISTER, M.D.,
JOHN J. MCARDLE, M.D.,
HARRY H. NEVERS, M.D.,
THOS. V. UNIAC, M.D.,
J. FORREST BURNHAM, M.D.,
Chairman.

Feb. 20, 1930.

CORRESPONDENCE

A DEFENSE OF ANTI-VACCINATION SENTIMENTS

865 Great Plain Avenue,
Needham, Massachusetts,
February 25, 1930.

Editor,
The *New England Journal of Medicine*,
Dear Sir:

It has not been my intention to further discuss, in the pages of your journal, my views on the enforced vaccination of small children; however, since you have raised questions condemning my point of view, the responsibility for further discussion rests entirely with you.

I am unable to prove as to what percentage of our population is unvaccinated. I do not consider the figures at Middleboro a fair estimate. Massachusetts has for a number of years required school attendance of all children up to a certain age; also the vaccination of all children entering public schools unless specifically excused. Most of our children attend the public schools. If our laws are enforced, it must mean that the greater number of our population are vaccinated—otherwise our laws relating to vaccination are not enforced—and, if so, why institute more complicated ones. If it can be proven to me that an unvaccinated person is a menace to the health of a person who has been successfully vaccinated at such periods as the medical profession directs, then my faith in the efficacy of vaccination against smallpox wanes. The difficulty is, as I see it, that those who are not opposed to vaccination are indifferent about it and do not give the question of revaccination sufficient attention until the matter is called to their attention by some outbreak of the disease. In order to offset this indifference, those who do not approve of vaccination are forced against their own will and judgment to be vaccinated, perhaps only once, in order to give a moderate amount of protection to the careless believer in vaccination. This is the unfairness to which I object. I can not agree with the editor that natural parents are becoming indifferent to the health and welfare of their offspring, and that it is becoming increasingly necessary for the medical profession to adopt the rôle of foster-parent and invoke the ever-increasing power of government to further its aims. Nor do I agree that the average doctor is superior to the parent in the carrying out of the maternal instinct in so far as the well-being of the child is concerned. I will not attempt to tell the editor to what extent, if any, the vaccination of a child under one year of age is a menace to the health of that child, but I do demand the right to determine what shall be done to my own children if I am not insane and I concede that right to my fellows. I am not willing that the medical profession shall be the one to determine whether or not I can be judged as intelligent. If this bill to require the vaccination of children under one year of age becomes law, what is to prevent our having laws enacted requiring the Schick Test and the toxin-antitoxin treatment, and, as vaccines are developed from time to time, for use in the prevention of scarlet fever, measles, whooping cough, influenza, colds, etc., etc. Perhaps the Creator in His effort to construct a human omitted an additional orifice into which a hypodermic needle could be inserted. Perhaps we are destined to become so susceptible to disease that, in the not distant future, we shall be required to report each morning at some laboratory for the hypodermic dose necessary to protect us against the hazards of that particular day. I do not wish to condemn the use or value of these agents to health, but I do feel that each individual has the divine right to his or her own body, and especially since history has shown that so many of the therapeutic agents of medicine become obsolete in time.

The editor wishes to be shown that the use of tobacco by one can become a menace to another individual not using it.

He and I are both users of the weed and, therefore, we can talk frankly without hurting each other's feelings.

We both know something about the increasing amount of tobacco consumed each year, the cost of same, and the economic loss due to its consumption; the amount of more useful agriculture and manufacturing industry it displaces, and the labor wasted in its production. We both know the ultimate effect of nicotine on the efficiency of the heart, and the increasing number of deaths from diseases of the heart. We are not proud of the fact that we smoke, and realize that the process consists of a stump of tobacco with fire at one end and a fool on the other. We are not proud of the example that we, as physicians, demanding the confidences of the people, are setting for health and longevity.

We both realize that we can not offer one decent intelligent argument in favor of smoking. We both smoke because we are victims of the habit and have not the courage and strength to give it up. We console ourselves in knowing that a large part of the medical profession are in the same boat, even though they consider themselves better fitted to determine who are and who are not intelligent and what is good and what is not good for mankind.

Sincerely,

J. WALTER SCHIRMER.

Editorial note:

We are content to let the matter rest with the confession which the doctor makes in his reference to a stump of tobacco with fire at one end.

A REJOINDER WITH RESPECT TO THE ALLEGED TRIVIALITY OF UNVACCINATED PEOPLE

The Editor:

Your response to Dr. Schirmer's objection to enforced vaccination needs no supplement from me, but simply to play a small tune on one string of his argument, namely that he fears "no dire results" from the *small* number of people who would remain unvaccinated did we have no compulsory law if that

is what he really means. I wish to say that while the number of unvaccinated persons in Massachusetts is, as you pointed out, already large enough, our hundreds become in states without even our present law their thousands, yes tens of thousands.

It was not from a *small* number of unvaccinated persons that Washington in 1928 accumulated 1772 cases of smallpox, Oregon 1975, Texas 1980, North Carolina 2419, Oklahoma 3445 and Indiana 3725.

I venture to say that 50% of the inhabitants of these and other states have never submitted to the vaccination needle and had the anti-vaccinationists of Massachusetts completed in 1916 what they so nearly accomplished in 1915, similar conditions would exist here today and I for one *would fear* "dire results" therefrom.

SAMUEL B. WOODWARD.

ARTICLES ACCEPTED BY THE AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

535 North Dearborn Street, Chicago, Ill.,
February 21, 1930.

Managing Editor,
The *New England Journal of Medicine:*

In addition to the articles enumerated in our letter of January 24, the following have been accepted:

United States Standard Products Co.

Diphtheria Toxin-Antitoxin Mixture 0.1 L. (Non-Sensitizing) Prepared from Sheep Serum.

The following articles have been exempted and included with the List of Exempted Medicinal Articles (New and Nonofficial Remedies, 1929, p. 481):

Robert McNeil

Tincture Digitalis Duo-Test McNeil
Black Capsules Digitalis Duo-Test McNeil

Yours truly,
W. A. PUCKNER, *Secretary,*
Council on Pharmacy and Chemistry.

RECENT DEATH

STONE—DR. LINCOLN RIPLEY STONE, the oldest Fellow of the Massachusetts Medical Society, died at his home in Newton, February 17, 1930, at the great age of 97.

He was a native of Bridgeton, Me., and his father was Rev. Thomas T. Stone, a prominent Unitarian minister of his time, and a widely known abolitionist. For a time following the son's graduation from the Harvard Medical School in 1854 he practised in Salem, and with the outbreak of the Civil War he went to the front as a surgeon with the Second Massachusetts Regiment. Later he helped Robert Gould Shaw organize the Fifty-fourth Massachusetts Regiment and went with him to the front and was near that gallant soldier when he was killed at Fort Wagner.

Following the war, Dr. Stone went into the Middle West and was in charge of a hospital at Gallipolis, O., and later at Harper's Ferry, Va. Then he returned to the East and for many years thereafter practised in Newton, being retired in 1907.

For several years previous to and following the centennial meeting of the Massachusetts Medical Society in 1881, he attended meetings of the Council as a representative of the Middlesex South District.

His wife, Harriet Hodges Stone, died a little over a year ago and his son, Dr. James Savage Stone, formerly President of the Massachusetts Medical Society and a well known surgeon, died last September. Dr. Lincoln Stone's only survivor is his daughter, Mrs. Charles Batchelder of Peterboro, New Hampshire.

OBITUARIES

DR. JAMES C. KIRBY

Dr. James Caleb Kirby, in the few years he had been practicing his specialty of Ear, Nose and Throat, attained for himself an enviable position in the profession. Few young men in the same period of time have developed a skill in diagnosing and treating ear, nose and throat troubles which Dr. Kirby had.

Born in 1893, he was but thirty-seven years old at the time of his death, February 3. He was a native of Peabody, Mass.; graduated from the high school of that town; entered Tufts Medical College, where he graduated in 1917. He spent his internship at Bellevue Hospital, New York, and one year at Robert Brigham Hospital. He then opened an office in the Kenmore Hotel, Boston, where he began practice at once as a specialist. He soon obtained an appointment as Assistant on the staff of the Eye and Ear Infirmary of the Massachusetts General Hospital, where his work was of such a character as to bring him distinct recognition from his superior officers.

His brain surgery, in connection with mastoid diseases, was of an outstanding character, and the few pamphlets he had written pertaining to such work have been published with favorable comment.

Dr. Kirby was a great lover of art and flowers and the great out-of-doors. He bought pictures and antiques with a discerning taste, and seemed to know instinctively how to grow flowers, especially roses.

He married Miss Elizabeth Laird of Salem in 1920, and had one daughter, Ruth, aged eight years.

DEWITT G. WILCOX, M.D.

IN MEMORIAM: JAMIESON BOYD HURRY (1857-1930)

The death of Dr. J. B. Hurry of Reading, England, removed an outstanding figure in medical history. Born in 1857, he had a long life of devotion to his profession and during his later years gave much of his time to the local history of Reading and to medical history in general. Osler became a warm friend after they had met in 1911, for the two men had much in common, and Dr. Hurry's natural but delightful shyness was easily dissipated by the warmth of Osler's genial personality.

Dr. Hurry translated Otto Spiegelberg's *Lehrbuch der Geburtshülfe* into English for the New Sydenham Society, 1887-8. His most important medical publication was *Vicious Circles in Disease* (London, 1911), which ran into a third edition by 1919.

Medical history and allied subjects, however, in-

terested him most. He was "a doctor with a hobby, a man after Osler's own heart," according to Harvey Cushing (*The Life of Sir William Osler*, Vol. II, p. 280); one hobby was the history of the old Benedictine Abbey near Reading, founded in the twelfth century but despoiled and looted by Henry VIII, four centuries later. Dr. Hurry wrote five volumes on *The History of Reading Abbey* and when memorial tablets were placed on the sides of the ruined entrance to the old chapter house in July 1911, Osler gave the address, part of which is published in Cushing's *Life*.

Other books of a similar nature are *A History of the Reading Pathological Society* (London, 1909) and *The Ideals and Organization of a Medical Society* (London, 1913) but, far exceeding either of these in worth and comprehensiveness is *Imhotep: The Vizier and Physician of King Zoser and afterwards the Egyptian God of Medicine* (Oxford, 1926). A second and enlarged edition appeared in 1927. Imhotep, "the first Figure of a Physician to stand out clearly from the Mists of Antiquity" (Osler), was only vaguely known to medical historians before Dr. Hurry's investigation, although many statuettes of Imhotep as a Deity of Medicine, and some details of his life, were known to Egyptologists. The book, reviewed in the *Boston Medical and Surgical Journal* for January 6, 1927, is considered as one of the outstanding advances in the history of medicine in the twentieth century.

Hurry's name joins easily and fittingly with the great names of British medical historians who have gone before him: Francis Adams, "the busy country doctor and indefatigable scholar," Charles Creighton, J. F. Payne, Norman Moore, William Osler and Clifford Allbutt.

H. R. V.

DR. EDWIN A. MESERVE

On Thursday, February 13, Dr. Edwin A. Meserve of 30 Ransom Road, Newton Center died of septicemia after one week's illness. He was born in Charlestown, May 10, 1884, and was the son of Alonzo and Abbie (May) Meserve.

After being educated in the Boston schools and graduated from the Latin School he entered Harvard where he was a member of the class of 1907. He next pursued a course at the Harvard Medical School and upon leaving there in 1913 he became associated with the Newton Hospital where he, having become interested in the Hiram Bingham Expedition sponsored by the National Geographic Society, joined the group and went to the Andes in Peru as its surgeon. He was only there a few months when the World War broke out.

During the War Dr. Meserve entered the Medical Corps of the United States Army and served in hospitals in New York, at Camp Devens and finally went overseas for a time. Following his return to this country he further pursued his medical studies and became a specialist in the diseases of the ear, nose and throat with an office at 45 Bay State Road, Boston. At the same time he joined the staff of the Children's Hospital, the Newton Hospital and also was a member of the staff of the Massachusetts Eye and Ear Infirmary.

Dr. Meserve was a member of the American Medical Association, the Massachusetts Medical Society, the New England Otolaryngological Society, the Middlesex South Medical Society and the Newton Medical Club. In Masonry he belonged to several bodies, including Bethesda Lodge, Royal Arch Chapter and Boston Commandery. His military connection included the Newton Post, American Legion, Boston Chapter of the Military Order of the World War, and the Massachusetts Reserve Officers' Association.

Dr. Meserve, by his conscientious and enthusiastic work, contributed greatly to the development of the special departments in the hospitals to which he was attached. His sudden passing was a great loss to the profession and will be deeply mourned by his associates and friends.

He is survived by his wife, who was Daphne Copp of New Brunswick and two young children, Edwin C. Meserve and Mary Winifred Meserve. His mother also is living and there are three brothers and four sisters.

NEWS ITEMS

RECENT ADDRESSES BY HENRY A. CHRISTIAN, HERSEY PROFESSOR OF THE THEORY AND PRACTICE OF PHYSIC, MEDICAL SCHOOL OF HARVARD UNIVERSITY—January 13—Syphilitic aortic insufficiency, a clinic before the 3rd and 4th classes of the Medical School of Vanderbilt University, Nashville, Tenn.

January 15—Diuretics and their Uses, a lecture before the Tri-States Medical Association of Mississippi, Arkansas and Tennessee at Memphis, Tenn.

January 25—A clinic at the Scripps Hospital, La Jolla, Cal. before the San Diego County Medical Society and the annual lecture of the Scripps Metabolic Clinic on Chronic Non-Valvular Heart Disease; its Causes, Diagnosis and Management.

January 27—Varieties of Edema and their Management, a lecture before the Los Angeles County Heart Association at Los Angeles, Cal.

January 28—Purpura, a Stanley P. Black Memorial Lecture at Pasadena, Cal.

SURGEON HASSELTINE, P.H.S., WILL ATTEND A MEETING OF THE MANCHESTER MEDICAL SOCIETY—Surgeon H. E. Hasseltine. Directed to proceed from Washington, D. C., to Manchester, N. H., for the purpose of attending the Manchester Medical Society on April 16, stopping over in Boston, Mass., for the purpose of attending the New England Health Institute and give a talk on undulant fever, February 25, 1930.

APPOINTMENT OF DR. PETER J. MULLEN—Governor Allen has nominated Dr. Peter J. Mullen of Amesbury for consideration by the executive council for the position of associated medical examiner of the third Essex district, to take the place vacated by the resignation of Dr. Daniel D. Murphy.

Dr. Mullen is a member of the Massachusetts Medical Society and graduated from the University of Vermont College of Medicine in 1902.

ASSIGNMENT TO THE MARINE HOSPITAL, BOSTON—Assistant Surgeon (R) E. M. Gordon. Relieved from duty at Marine Hospital, New Orleans, La., and assigned to duty at Marine Hospital, Boston, Mass. February 20, 1930.

NEW HAMPSHIRE MEDICAL SOCIETY

NEW MEMBERS

Dr. Lawrence R. Hill, Sanbornville.
Dr. Charles C. Smith, Conway.
Dr. Edwin C. Remick, Tamworth.

DEATHS

Dr. Romeo Paradis, Nashua, February 24.
Dr. Emil A. Sylvain, Manchester, February 27.

NOTICE

Dr. Bennett Solomon announces the removal of his office from 1695 Main Street to 115 State Street, Springfield, Massachusetts.

REPORTS AND NOTICES OF MEETINGS

THE LAWRENCE MEDICAL CLUB

The Monthly Meeting of the Club was held Monday evening, February 24, with G. E. Kurth, M.D., at 86 East Haverhill street, Lawrence. Chairman for the evening F. D. McAllister, M.D., of Lawrence. Subject, Rectal Diseases (with charts). By E. Parker Hayden, M.D., of Boston.

COMBINED MEETING OF THE MANCHESTER MEDICAL ASSOCIATION AND THE NEW ENGLAND HEART ASSOCIATION

The Combined Meeting of the Manchester Medical Association and New England Heart Association will be held March 11, 1930, 6.00 P. M., Rice-Varick Hotel, Manchester, N. H.

1. Syphilitic Heart Disease as Found in General Practice. Dr. William H. Robey, Boston.
2. Thyroid Heart. Dr. Burton E. Hamilton, Boston.

PAUL W. EMERSON, *Secretary.*

HARVARD MEDICAL SOCIETY

The next meeting of the Harvard Medical Society will be held in the amphitheatre of the Peter Bent Brigham Hospital at 8:15 P. M. on the evening of Tuesday, March 11.

PROGRAM

Neurological Clinic, Dr. Harvey Cushing.
Some Old Books, Dr. Reginald Fitz.

WILLIAM P. MURPHY, M.D., *Secretary.*

MASSACHUSETTS GENERAL HOSPITAL

A Clinical Meeting of the Staff of the Massachusetts General Hospital will be held in the Moseley Memorial Building, on Thursday, March 13, 1930, at 8:15 P. M.

PROGRAM

1. The Sedimentation Rate of the Blood in Obstructive Jaundice. Dr. Robert R. Linton.
2. Observations on the Goitre Endemic in the Great Lakes Basin. Dr. Frederick A. Coller, University of Michigan.

Physicians, Medical Students and Nurses are cordially invited to attend.

COMMITTEE ON HOSPITAL MEETINGS.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY

The Middlesex East District Medical Society will meet March 12 at the Nurses' Home of the Winchester Hospital, Winchester. Dinner will be served at 6.30 P. M.

Speaker—Francis L. Burnett, M.D.
Subject—Anabolic Nutrition.

ALLAN R. CUNNINGHAM, M.D., *Secretary.*

SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

1929-1930—Massachusetts Dietetic Association. Complete schedule appears on page 852, issue of October 24.

March 11—Combined meeting of the Manchester Medical Association and the New England Heart Association. Complete notice appears elsewhere on this page.

March 11—Harvard Medical Society. Detailed notice appears elsewhere on this page.

March 13—Massachusetts General Hospital. Complete notice appears above.

March 11 and 13—Lectures by Professor Hecht at the Harvard Medical School. Detailed notice appears on page 459, issue of February 27.

March-October — International Medical Postgraduate Courses in Berlin. Complete notice appears on page 853, issue of October 24.

April 14-18—The New England Public Health Institute. Complete notice appears on page 55, issue of January 2.

May 2—Annual Meeting of the American Society of Stomatologists. Detailed notice appears on page 92, issue of January 9.

May 5-10—First International Congress on Mental Hygiene. Detailed notice appears on page 93, issue of January 9.

September 4-8—Fifth International Congress on Physiotherapy. Complete notice appears on page 906, issue of October 31.

October 27—The American Public Health Association. Detailed notice appears on page 1271, issue of December 19.

DISTRICT MEDICAL SOCIETIES

Essex North District Medical Society

May 1—Thursday—Censors' meeting at Hotel Bartlett, 98 Main Street, Haverhill, (Telephone 3430) at 2 P. M. sharp. Candidates should present their diplomas to the Secretary one week in advance.

May 7—Wednesday—Annual Meeting, at Anna Jaques Hospital, Highland Avenue, Newburyport, Mass.

J. FORREST BURNHAM, M.D., Secretary.

Essex South District Medical Society

Wednesday, April 2, 1930—Hotel Hawthorne, Salem. Dinner at 7 P. M. Speaker: Dr. Timothy Leary, Boston. Subject: "Diagnostic and Therapeutic Pitfalls in Intracranial Pyogenic Infections."

Thursday, May 1, 1930—Censors meet for Examination of Candidates at Salem Hospital at 3:30 P. M.

Tuesday, May 13, 1930—Annual Meeting. The Tavern, Gloucester. Speaker: Dr. C. Macfie Campbell, Director of Boston Psychopathic Hospital. Subject to be announced later. Ladies invited. Dancing.

R. E. STONE, M.D., Secretary.

Franklin District Medical Society

The meetings of the Franklin District Medical Society will be held at the Weldon Hotel, Greenfield, Mass., on the second Tuesdays of March and May, at 11 A. M.

CHARLES MOLINE, M.D., Secretary.

Hampshire District Medical Society

April 9—This meeting will occur at 11 A. M. and will be held at the Dickinson Hospital, Northampton.

The Annual Meeting will be held in May.

LUTHER O. WHITMAN, M.D., Secretary.

Middlesex East District Medical Society

March 12—Complete notice appears on page 510.

May 13—At Unicorn Country Club, Stoneham.

ALLAN R. CUNNINGHAM, M.D., Secretary.

Middlesex South District Medical Society

April 16, 1930—Annual Meeting. Commander Hotel, Cambridge. Program to be announced.

May, 1930—Censors' meeting.

ALEXANDER A. LEVI, M.D., Secretary.

Norfolk District Medical Society

March 24, 1930—Roxbury Masonic Temple. Dr. Burton E. Hamilton. Subject to be announced.

May 1, 1930—The Censors meet for the examination of candidates, in the Roxbury Masonic Temple, 171 Warren Street, Roxbury, at 4:00 P. M.

Applications must be in the hands of the Secretary at least one week previous to date of examination.

May 6, 1930—Annual Meeting. Program to be announced.

Owing to inability to engage the Roxbury Masonic Apartments on the last Tuesday of the month, such meetings as will be held in the Roxbury Temple will be held Monday evenings as per the dates above.

FRANK S. CRUICKSHANK, M.D., Secretary.

Plymouth District Medical Society

March 20, 1930—Moore Hospital, Brockton. Speakers to be announced later.

April 17, 1930—Annual Meeting, Commercial Club, Brockton, 7 P. M. Election of officers. Annual oration, Dr. Frederick F. Weiner, "The Management of Prostatic Diseases," with moving pictures.

G. A. MOORE, M.D., Secretary.

BOOK REVIEWS

Treatment of Diabetes Mellitus, W. D. SANSUM, P. A. GRAY and RUTH BOWDEN. Harper's Medical Monograph 1929, 303 pp. Price $2.50.

This volume contains a statement of the author's principles underlying the choice of a normal diet, a presentation of the general methods and problems involved in the treatment of diabetes mellitus; and a description of his use of high carbohydrate diets in diabetes. He points out that the diets formerly in vogue contained much protein but little milk and therefore lacked in mineral content. The use of food substitutes which were coarse and irritating affected the intestines and undoubtedly in some instances the diets were deficient in vitamines. He proposes as essential requirements that no diet should contain less than two parts by weight of carbohydrate to one of fat and in children that the proportion should be three or four to one. More milk should be used but the total protein should be restricted in order to avoid its acid ash and its effect upon arterial disease. The urine should be kept neutral by the use of foods balanced with respect to the reaction of their ash. Vitamines should be considered in planning every diet.

The etiology of diabetes and the objectives of treatment are discussed. The initial diets usually consist of 2000 calories. If glycosuria is considerable, from 48 to 80 units of insulin are given. In many instances as the patient improves, the amount of insulin may be steadily reduced. Ketosis and non-ketogenic acidosis are considered. Directions for the treatment of coma, injection of insulin and the Benedict test for sugar in the urine are given. The common complications and their treatment are described. Arteriosclerosis is considered to be more influenced by high protein feeding and especially by a diet with an acid ash than hypercholesterinemia or infection.

The results of treatment in eight cases only are given. About 150 pages are devoted to the Dietetic Section, in which are found food tables, Standard Diets, Reducing Diets and Alkaline Diets. Seven Standard Diets contain from 154 to 366 grams carbohydrate.

The author's work has served to call attention to the inherently mild character of most cases of diabetes and is an encouragement to physicians and patients alike to strive for improvement in carbohydrate tolerance. The burdensome character of the diabetic diet is rapidly vanishing.

Coronary Thrombosis. Its Various Clinical Features. By SAMUEL A. LEVINE, Senior Associate in Medicine, Peter Bent Brigham Hospital, Boston. Baltimore: Williams and Wilkins Co., 1929, pp. 178. Price $3.00.

The subject of occlusion of the coronary arteries has grown increasingly important in recent years, and the interest in its clinical features has led to the printing in monograph form of Levine's study, originally appearing in the periodical *Medicine* in October, 1929.

This study is based on an analysis of 145 cases, slightly less than half having been seen at the Peter Bent Brigham Hospital and the others in private practice. Only cases proved by autopsy (46) or by the obvious clinical picture are considered. A few have been previously reported in three papers by the author and his associates.

The contributions of historical value are first discussed, followed by a consideration of the etiology, which includes the relationship to angina pectoris, diabetes, hypertension and arteriosclerosis, syphilis, other diseases, heredity, physical type, work, weight, age and sex.

The common occurrence of pre-existing angina pectoris is stressed. The frequency of coronary thrombosis in diabetics is interpreted as indicating the type of individual who would develop coronary disease rather than any causal relationship. Hypertension in this series was common, syphilis rare and arteriosclerosis of other parts of the body variable in its incidence. Heredity was thought to be very important especially in those having coronary thrombosis when comparatively young. The average age of the series was 57.8 years. There were 111 males and 34 females.

The clinical features of different types of attack and the differential diagnosis are well described. The author notes that, although the blood pressure usu-

ally falls with the attack, in some instances this did not take place. He says also that the temperature must always be taken by rectum to be accurate. The electrocardiographic progress of several cases is illustrated by 84 figures of tracings. In addition to the usual findings a prominent Q wave in lead three is considered of importance and perhaps suggestive of a better prognosis than the average.

In prognosis he agrees with other observers that it is wellnigh unpredictable. About 50% survive the severe attack. After recovery from this the average duration of life of his series is about two years. He estimates that the average, when the time is long enough to get all the data from those still living, will be about 3 years with extremes of a few months to over 10 years. Hypertension does not affect the prognosis. Patients with ventricular tachycardia and heart block had a higher mortality than the average. The results of different treatments in the entire series in respect to prognosis are inconclusive.

The pathological study revealed that thrombus not infrequently formed in the right ventricle as well as in the left following a closure of the left coronary in cases involving the interventricular septum. There were two painless cases in which the right coronary artery was thrombosed. The most frequent point of closure was the left descending branch about 2 cm. below the bifurcation with the circumflex branch.

Sixty-two pages are taken up with short case reports of the complete series. A bibliography of seventy-nine references is appended and an index of four pages.

The monograph is to be recommended as a concise summary of a well studied series of cases and as a good presentation of our present knowledge. The press work, aside from an inexcusable number of errata, is excellent.

The Treatment of Varicose Veins of the Lower Extremities by Injections. TREVES-BARBER. William Wood and Company. Price, $2.25.

In this book of approximately 100 pages the author sets forth his own methods of dealing with varicose veins, with little or no reference to the work of others. Undoubtedly he has had a large experience and knows the subject well, although no statistics or case records are given. A method with which he is well suited is described in detail. Sodium chloride solution is recommended and apparently has given good results in his hands. Other solutions are mentioned as possibilities but some that are found preferable by others interested in this work, have obviously not been used to any extent by the author.

A new and unique lateral-eyed needle is illustrated and may find favor in other hands.

The sections on technique and complications are excellent. The book is not didactic enough for the average beginner in this field but will be of interest and quite helpful to those of considerable experience. It is written in a pleasing style.

A Textbook of Physiology for Nurses. By WILLIAM GAY CHRISTIAN, M.D., and CHARLES C. HASKELL, B.A., M.D. Second edition. St. Louis: The C. V. Mosby Company, 1929. 153 pages. Price, $2.00.

This is a second edition of a well-known book for nurses. A few changes have been made since the first edition was published, over ten years ago. The book is accurate, simple and brief, and can be highly recommended.

A Social Worker's Notebook. By F. WHIPPLE POPE. Mansfield Printing Co., Boston, Mass. Price, $2.00. 102 pages.

This little book gives some personal impressions of a social worker in addition to many quotations from the literature on the subject. Its value is very slight and the book cannot be recommended either on account of the information contained in it or the interest with which it is written.

BOOKS RECEIVED FOR REVIEW

Transactions of the American Association of Genito-Urinary Surgeons. Volume XXII. Published by the Bruce Publishing Company. 454 Pages.

Roentgenographic Technique by Darmon Artelle Rhinehart. Published by Lea and Febiger. 388 Pages. Price $5.50.

Psychology by J. W. Bridges. Published by D. Appleton and Company. 552 Pages. Price $3.50.

Nouveau Traité de Medécine. Fascicule XVII. Published under the direction of: G. H. Roger, Fernand Widal and P. J. Teissier. Published by Masson et Cie, Editeurs. 1024 Pages. Price 125 fr.

Studies from the Rockefeller Institute for Medical Research. Reprints. Volume LXX. Published by the Rockefeller Institute for Medical Research. 633 Pages.

Insomnia—How to Combat it by Joseph Collins. Published by D. Appleton and Company. 131 Pages. Price $1.50.

Applied Physiology by Samson Wright. With introduction by Swale Vincent. Third Edition. Published by Humphrey Milford, Oxford University Press. 552 Pages. Price $5.50.

A Syllabus of Lectures on Obstetrics for Nurses. Prepared and Published by a Committee Appointed by The American Gynecological Society. 38 Pages. Copies may be obtained from the Chairman of the Committee, 23 East 93rd St., New York City for 50c.

Surgical Diagnosis. Edited by Evarts Ambrose Graham. Volumes I and II. Published by W. B. Saunders Company. Volume I—919 Pages; Volume II—871 Pages. For the set of three volumes and index $35.00.

Annals of Roentgenology—Volume X edited by James T. Case. Peptic Ulcer by Jacob Buckstein. Published by Paul B. Hoeber Inc. 337 Pages. Price $12.00.

Surgery at the New York Hospital One Hundred Years Ago by Eugene H. Pool and Frank J. McGowan. Published by Paul B. Hoeber Inc. 188 Pages. Price $1.50.